

SHOSHONE NATIONAL FOREST

FIRE MANAGEMENT PLAN

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Table of Contents

List of Appendices.....	7
Section I - Introduction.....	15
A. Purpose of Plan.....	15
B. Collaboration	15
C. Link to Policy	15
D. Link to Land and Resource Management Planning	15
E. Authorities	16
Section II - Relationship to Land Management Planning and Fire Policy.....	17
A. Related Management Plan and Policy Documents Concerning Fire Management	17
B. Management Policies Concerning Fire Management	17
1. Safety	17
2. Fire Management and Ecosystem Sustainability	17
3. Response to Wildland Fire	17
4. Use of Wildland Fire.....	17
5. Rehabilitation and Restoration	18
6. Protection Priorities	18
7. Wildland Urban Interface.....	18
8. Planning	18
9. Science.....	18
10. Preparedness	18
11. Suppression	18
12. Prevention	19
13. Standardization	19
14. Interagency Cooperation and Coordination.....	19
15. Communication and Education	19
16. Agency Administrators and Employee Roles	19
17. Evaluation.....	19
Section III - Wildland Fire Management Strategies.....	23
A. General Management Considerations	23
B. Wildland Fire Management Goals.....	23
1. Forest Plan Goals, Desired Condition, and Direction.....	24
2. Forest General Direction	24
3. Management Area General Direction.....	25
4. Forest-wide Wildland Fire Management Standards	32
C. Wildland Fire Management Options.....	34
1. Appropriate Management Response.....	34
2. Managing unplanned ignitions for resource benefits (Wildland Fire Use).....	35
3. Prescribed Fire	35
D. General Fire Management Unit Characteristics	36
1. Fire Management Units and Response zones	36
2. Historical Fire Occurrence.....	40
3. The Fire Management Situation	41
4. Values at risk.....	43
E. Fire Management Unit Guidance	46
Section IV - Wildland Fire Management Program Components	47
A. General Implementation Procedures	47
B. Wildland Fire Suppression	48
1. Preparedness Actions	48

2.	Annual Fire Training Activities.....	49
3.	Detection	50
C.	Fire Weather and Fire Danger	50
D.	Policy and Forest Service Manual and Handbook Direction	52
E.	Actions the Forest will Initiate at the Five Forest Preparedness Levels	53
1.	Risk Factors	53
2.	Staffing and Draw Down Levels	56
F.	Aviation Management	59
G.	Initial Attack.....	59
1.	Information Used to Set Initial Attack Priorities and Appropriate Initial Attack Response.....	60
2.	Response Times	60
3.	Restrictions and Special Concerns	60
4.	Work-rest Guidelines.....	60
5.	Social and Political Concerns.....	61
6.	Evacuation.....	61
7.	Accident.....	61
8.	Wildland Fire Entrapment.....	61
9.	Critical Incident Stress Debriefing	62
10.	Reports.....	62
11.	Local Unit Dispatch Protocol	62
H.	Extended Attack and Large Fire Suppression.....	63
1.	Determine Extended Attack Needs	63
2.	Implementation Plan Requirements – WFSA Development.....	63
3.	Complexity Decision Process for Incident Management Transition	64
4.	Delegation of Authority for the Incident Commander	66
5.	Exceeding Existing WFIP – Selecting a New Strategy.....	66
6.	Minimum Impact Suppression Tactics Requirements	66
7.	Other Fire Suppression Considerations	67
I.	Wildland Fire Use.....	67
1.	Factors Affecting Decision Criteria for Wildland Fire Use	67
2.	Implementation Process.....	68
3.	Wildland Fire Use Implementation Procedures Reference Guide.....	69
4.	Maximum Manageable Area Development	69
5.	Cultural Resources.....	70
6.	Preplanned Implementation Procedures	70
7.	Impacts of Plan Implementation	70
8.	Required Personnel, Responsibilities, Required Skills and Qualifications	71
9.	Public Information.....	72
10.	Records	73
J.	Management Ignitions in Wilderness	73
K.	Prescribed Fire.....	74
1.	Planning and Documentation	74
2.	Annual Activities.....	75
3.	Long-term Fuel Treatment Direction	75
4.	Prescribed Fire Qualifications	75
5.	Monitoring of Weather Fire Behavior and Fire Effects	76
6.	Critique of Prescribed Fire Projects.....	77
7.	Reporting and Documentation.....	78
8.	Historic Fuel Treatment Map	78
9.	Trust Fund (KV & BD) Planning Procedures	78

10.	Prescribed Fire Burn Plan Development and Implementation Procedures	81
L.	Air Quality and Smoke Management	85
M.	Non-Fire Fuel Applications.....	85
N.	Emergency Rehabilitation and Restoration.....	86
O.	Unit Dispatching.....	86
	Section V - Organizational and Budgetary Parameters.....	87
A.	Current fiscal year budget and the ability to support planned and unplanned actions....	87
B.	Organization.....	87
C.	Cooperative agreements, annual operating plans, and interagency contacts.....	92
D.	Fire Suppression Cost Share Agreements.....	92
E.	Contract suppression and prescribed fire resources.....	93
	Section VI - Monitoring and Evaluation	95
A.	Annual Monitoring Requirements.....	95
1.	Fuels Treatment	95
2.	Wildland Fire Suppression	95
3.	Fire Use.....	95
4.	Fire Effects Monitoring	96
B.	Reporting Requirements	96

List of Appendices

	Location/Format			
	FMP EC & CD	FMP Hard Copy	Web Link	Other
Appendix A – FMU Guidance				
A1 - Clarks Fork FMU	X	X		
A2 - North Fork FMU	X	X		
A3 - South Fork FMU	X	X		
A4 - Greybull FMU	X	X		
A5 – Wind River FMU	X	X		
A6 - Washakie FMU	X	X		
A7 – SHF Wildland Fire Management Resource Protection Guidelines	X	X		
Appendix B – Funding, Key National/Regional Policy, Direction and Memorandum				
B1 - FS-5100-2 Spreadsheet	X	X		
B2 - Hazardous Fuels & Preparedness Budget	X	X		
B3 - Incident Job Codes	X	X		
B4 - Severity Request	X	X		X
B5 - Federal and Regional Current Year Fire and Aviation Direction	X	X		
B6 - FSM 5130 – Wildland Fire Suppression	X	X	X	
B7 - FSM 5140 – Fire Use	X	X	X	
B8 - FSH 6509.11 Ch. 50 – Wildland Fire Appropriations Direction	X	X	X	
B9 - R2 Fire Duty Officer Policy	X	X		
B10 - USFS Incident Accountability Plan	X	X		
B11 - Certificate of Abatement Forms	X	X		
B12 – Other Direction	X	X		
Appendix C – Forest Delegation of Authorities				
C1 - IC Type 3, 4 and 5 Delegation of Authority	X	X		
C2 - Line Officer Delegation of Authority for WFSA Approval	X	X		
C3 - Line Officer Delegation of Authority for WFIP Approval	X	X		
C4 - Line Officer Delegation of Authority for Rx Fire Plan Approval	X	X		
C5 - Other Delegations	X	X		

	Location/Format		
	FMP EC & CD	FMP Hard Copy	Web Link Other
Appendix D - Qualifications and Training			
D1 - Shoshone NF Fire Qualifications Review & Training Committee Operating Plan	X	X	
D2 - IQCS Master Records (IQCS database; individual fire suppression & RX fire experience folders located in CDC)			X
D3 - IQCS Qualified Master List	X	X	
Appendix E – Specific Action and Staffing Guide			
E1 – Initial Actions, Staffing Levels, and Preparedness	X	X	
Appendix F – Communication Plans			
F1 - Shoshone National Forest Radio Frequency Plan	X	X	
F2 - IRM Support of Fire	X	X	
F3 - Cell and Satellite Phone List	X	X	
Appendix G – Work Rest & Driving Guidelines			
G1 - Driving Standards	X	X	
G2 - NWCG Work/Rest Guidelines	X	X	
Appendix H – Wildland Fire Suppression and WFSA Preparation			
H1 - Incident Organizer	X	X	
H2 - Complexity Rating Form for Type 1 and 2 Incidents	X	X	
H3 - Complexity Rating Form for Type 3, 4 and 5 Incidents	X	X	
H4 - WFSA Forms	X	X	
H5 - WFSA Software	X		
H6 - WFSA Certification Checklist	X	X	
H7 - Agency Administrators Briefing Form	X	X	
H8 - Delegation of Authority Example	X	X	
H9 – IMT Initial Attack Responsibilities and Protocols	X	X	
H10 - IMT Briefing Check List	X	X	

	Location/Format			
	FMP EC & CD	FMP Hard Copy	Web Link	Other
H11 – Guidelines for Aerial Delivery of Retardants and Foam Near Waterways	X	X		
H12 - Incident Monitoring Form	X	X		
H13 - Incident Turn Back Standards	X	X		
H14 - Managers Post Incident Review	X	X		
H15 - Pocket Cards	X	X		
H16 - Other WFSA Direction	X	X		
H17 - Values at Risk	X			X
H18 – Heritage Resources Map by FMU	X	X		
Appendix I - National Fire Management Event Report			Appendix I - National Fire Mgmt Event Report	
I1 - Form 5100-29	X	X	I1 - Form 5100-29	X
I2 – Agency Administrator Guide – Critical Stress	X	X		
I3 – Critical Stress Contacts	X	X		
Appendix J - Fire Weather				
J1 - Shoshone National Forest Fire Weather Handbook	X	X	X	
J2 - Rocky Mtn Area Fire Weather AOP			X	
J3 - Billings Fire Weather Operating Plan			X	
J4 – Lightning Activity Level Guide	X	X		
Appendix L – Fire Prevention and Restrictions				
L1 - Fire Prevention Plan (TBD)	X	X		
L2 - Wyoming Interagency Fire Restrictions Plan	X	X		
Appendix K - Fire Information and Education				
K1 – GYA Wildland Fire Use Brochure	X	X		
K1 – SHF Fire Information Handbook	X	X		
Appendix M - Aviation				
M1 – Aviation Plan	X	X		
M2 – Aerial Supervision Guide	X			X
M3 – Aerial Ignition Guide	X			X
M4 – Helibase Security Template	X	X		

	Location/Format			
	FMP EC & CD	FMP Hard Copy	Web Link	Other
Appendix N - Wildland Fire Use				
N1 - Wildland Fire Use Implementation Procedures Reference Guide	X	X	X	
N2 - WFIP Forms	X	X		
N3 - WFIP Software (same as WFSA)	X			
N4 – Values at Risk Map	X			X
N5 – Heritage Resources Map	X			
N5 – Other Direction	X			
Appendix O - Prescribed Fire				
O1 - Prescribed Fire Implementation Procedures Reference Guide	X	X	X	
O2 - Burn Plan Format	X	X		
O3 - Pile Burn Tracking Sheet	X	X		
O4 - Rx Fire Complexity Rating Guide	X	X		
O5 - Rx Fire Complexity Rating Worksheet	X	X		
O6 - Prescribed Fire Plan Technical Review Form	X	X		
O7 - Prescribed Fire Briefing Checklist	X	X		
O8 - Shoshone NF Fire Effects Monitoring Guide	X	X		
O9 - Example Vegetative Prescription for Fuels Treatment on Non-Forested Land	X	X		
O10 – Homestead Park II Escaped Prescribed Fire Action Plan	X	X		
Appendix P – Smoke Management				
P1 - Chapter 10 – Wyoming Smoke Plan	X	X		
P2 - Wyoming Smoke Management Plan Appendices and Forms	X	X		
P3 - NWCG Smoke Management Guide	X	X		

	Location/Format			
	FMP EC & CD	FMP Hard Copy	Web Link	Other
Appendix Q - Fuels Management				
Q1 - Forest Vegetation Tracker			X	
Q2 - Forest Fuels Program Strategies (TBD)				
Q3 - 10 Year Comprehensive Strategy	X	X	X	
Appendix R - BD & KV Project Planning				
R1 - BD/KV Project Planning Worksheet	X	X		
R2 - BD/KV Trust Fund Request	X	X		
Appendix S – Cooperative Agreements				
S1 - Wyoming Master Agreement	X	X		
S2 - Fremont Count Operating Plan	X	X		
S3 - Hot Springs County Operating Plan	X	X		
S4 - Park County Operating Plan	X	X		
S5 - BIA Ft. Waskakie Interagency Helicopter Annual Operating Plan	X	X		
S6 - GYA Operating Plan	X	X		
S7 - Wyoming SHPO and Forest Service Fire Programmatic Agreement	X	X		
S8 - Fire Control/Prescription MOU – Wyoming Game & Fish Commission and Forest Service	X	X		
S9 – Cody Interagency Dispatch Zone Annual Operating Plan	X	X		
S10 – SHF Wildland Fire Cost Share Agreement	X	X		
Appendix T – Mobilization Guides				
T1 - CDC Mobilization Guide	X		X	X
T2 - Rocky Mountain Mobilization Guide				X
T3 - National Mobilization Guide				X
Other Plans, Manuals, Handbooks and References				
FSH 5109.32a - Fireline Handbook				X
Firefighters Guide				X
Interagency Standards for Fire and Aviation Operations (Red Book)				X
Incident Response Pocket Guide				X
Interagency Incident Business Management Handbook				X
FSH 6709.11 - Health and Safety Code Handbook				X
Forest Safety Plan				X

	Location/Format			
	FMP EC & CD	FMP Hard Copy	Web Link	Other
Search and Rescue Plan				X
Supply and Service Plan Shoshone Business Plan				X
Shoshone NF Aviation Plan				X
Aerial Ignition Guide				X
West Yellowstone Smoke Jumper Plan				X
PMS 310 – 1, Wildland & Prescribed Fire Qualifications System Guide			X	X
FSH 5109.17 Fire and Aviation Qualifications Handbook			X	X

Web Links

Fire Policy - http://www.nifc.gov/fire_policy/

Business Management Handbook - <http://www.nwcg.gov/teams/ibpwtnew/ibpwtnew.htm>

Wildland Fire Use Implementation Procedures Reference Guide -
http://www.nifc.gov/fire_policy/pdf/wildland_fire_use_guide.pdf

Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide -
http://www.nifc.gov/fire_policy/rx/rxfireguide.pdf

10 Year Comprehensive Strategy -
<http://www.fireplan.gov/content/reports/?ReportID=11&LanguageID=1>

FS Manual – 5100 - <http://fsweb.wo.fs.fed.us/directives/html/fsm5000.html>

FS Handbooks:

- Fire Report - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.14/>
- Fire Qualifications - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.17/>
- Wildfire Prevention guide - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.18/>
- Fire Planning - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.19/>
- Fire Cause Determination - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.31/>
- Fireline Handbook - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.32a/>
- Fire Business HB supplements - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.34/>

FS Health and Safety Code Handbook - <http://fsweb.wo.fs.fed.us/directives/fsh/6709.11/>

Mobilization Guides:

- Cody Dispatch - http://www.fs.fed.us/r2/fire/cdc/CDC_Mobilization_Guide.htm
- Rocky Mtn - <http://www.fs.fed.us/r2/fire/rmacc.html> - under publications
- National - <http://www.nifc.gov/news/mobguide/index.html>

PMS 310-1 Wildland & Prescribed Fire Quals guide <http://164.159.185.38/pms/docs/docs.htm>

Taskbooks - <http://164.159.185.38/pms/taskbook/taskbook.htm>

West Yellowstone Smokejumper Use Guide -
<http://www.fs.fed.us/r1/gallatin/fire/wyifc/WYS%20User%20Guide.pdf>

SHF Vegetation Tracker - http://fsweb/fire/Veg_Project_tracker.xls

Weather:

Billings - <http://www.wrh.noaa.gov/byz/pdf/BYZfwxops.pdf>

Riverton – <http://www.crh.noaa.gov/riw/fire.htm>

RMAC – Fire Weather AOP -http://www.blm.gov/colorado/rmafwx/2006_AOP.pdf

Section I - Introduction

A. Purpose of Plan

This Fire Management Plan (FMP) formally documents the fire management program for the approved Shoshone National Forest Land and Resource Management Plan (as amended). It provides specific details of the fire program that most efficiently meet fire management direction for the planning period, including organization, facilities, equipment, staffing needs, activities, timing and locations, and related costs. Each year adjustments are made in the FMP to reflect changes in the annual planning process. This document is meant to be a working reference for fire program implementation.

This plan was developed for all areas subject to wildland fires on the Shoshone National Forest in compliance with:

- Federal Wildland Fire Management Policy and Program Review
- Wildland Fire Use Implementation Procedures Reference Guide
- Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide
- Managing Impacts of Wildfires on Communities and the Environment, and Protecting People and Sustaining Resources in Fire Adapted Ecosystems—A Cohesive Strategy
- Interagency Fire Management Plan template
- A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan
- Cramer Fire Accident Prevention Plan

This Plan also meets the requirements of Forest Service Manuals (FSM) 5101, 5103, 5108, 5121.2 and Forest Service Handbook (FSH) 5109.19, 52.2.

B. Collaboration

The current Shoshone National Forest Land and Resource Management Plan (Forest Plan), January 1986, was developed via a public process including a draft EIS, final EIS, and selected alternative that became the Forest Plan. This Fire Management Plan was generated by the fire staff of the Shoshone based on the direction of the Forest Plan and existing wilderness fire plans.

C. Link to Policy

This Fire Management Plan is a detailed program of action to carry out fire management policies and to help achieve resource management and fire protection objectives as defined in the Forest Plan.

D. Link to Land and Resource Management Planning

This Fire Management Plan follows the goals and objectives identified in the Forest Plan. The Shoshone National Forest Plan, January 1986, meets National Environmental Policy Act (NEPA) requirements as well as other state and federal regulatory requirements. A Decision Notice and Finding of No Significant Impact for a forest plan amendment pertaining to wildland fire activities were completed in June of 2008 (Forest Plan Amendment 2008-01).

E. Authorities

FSM 5101 describes the authority for fire management activities on National Forest System Lands.

FSM 5108 list pertinent references for guidance on the minimum standards and procedures for wildland fire management.

Acronyms Used in the Fire Management Plan

FMU	Fire Management Unit
FMZ	Fire Management Zone
FSH	Forest Service Handbook
FSM	Forest Service Manual
LRMP	Land and Resource Management Plan
NAAQS	National Ambient Air Quality Standard
NFMAS	National Fire Management Analysis System
MMA	Maximum Manageable Area
T & E	Threatened and Endangered Species
WFIP	Wildland Fire Implementation Plan
WFSA	Wildland Fire Situation Analysis

Section II - Relationship to Land Management Planning and Fire Policy

A. Related Management Plan and Policy Documents Concerning Fire Management

- Greater Yellowstone Area Interagency Fire Management Planning & Coordination Guide
- Yellowstone National Park Wildland Fire Management Plan
- Custer National Forest Fire Management Plan
- Gallatin National Forest Fire Management Plan
- Bridger-Teton National Forest Fire Management Plan
- BLM – Cody and Lander Resource Management Plans
- Wilderness Fire Management Plans for Absaroka, Absaroka-Beartooth, Washakie, Fitzpatrick, and Popo Agie Wildernesses.
- Wyoming State Master Agreement and associated annual operating plans
- Wyoming DEQ Air Quality Standards and Regulations – Chapter 10 – Smoke Management

B. Management Policies Concerning Fire Management

The 2001 Federal Wildland Fire Management Policy (updated from 1995 policy) and Shoshone National Forest Land and Resource Management Plan (1986) are the guiding policy documents for fire management on the Shoshone National Forest.

The 2001 Federal Wildland Fire Management 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. The policy provides seventeen guiding principles that are fundamental to the success of the federal wildland fire management program:

1. Safety

Firefighter and public safety is the first priority. All fire management plans and activities must reflect this commitment.

2. Fire Management and Ecosystem Sustainability

The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components.

3. Response to Wildland Fire

Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.

4. Use of Wildland Fire

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. Use of fire will be based on approved fire management plans and will follow specific prescriptions contained in operational plans.

5. Rehabilitation and Restoration

Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health and safety, and to help communities protect infrastructure.

6. Protection Priorities

The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.

7. Wildland Urban Interface

The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments. Federal agencies may assist with exterior structural protection 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 enter into formal agreements to assist state and local governments with full structural protection.)

8. Planning

Every area with burnable vegetation must have an approved fire management plan. Fire management plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire management plans must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.

9. Science

Fire management plans and programs will be based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, fire management plans, and implementation plans.

10. Preparedness

Agencies will ensure their capabilities to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.

11. Suppression

Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.

12. Prevention

Agencies will work together and with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.

13. Standardization

Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, value-to-be-protected methodologies, and public education programs for all fire management activities.

14. Interagency Cooperation and Coordination

Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.

15. Communication and Education

Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.

16. Agency Administrators and Employee Roles

Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program as necessary. Agency administrators are responsible and will be held accountable for making employees available.

17. Evaluation

Agencies will develop and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will ensure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.

In June of 2003, the Wildland Fire Leadership Council approved implementation direction for the Federal Wildland fire Management Policy. The direction from the Council includes the following clarifications regarding operations to ensure consistent implementation of policy among federal wildland fire agencies:

- Only one management objective will be applied to a wildland fire. Wildland fires will either be managed for resource benefits or suppressed. A wildland fire cannot be managed for both objectives concurrently. If two wildland fires converge, they will be managed as a single wildland fire.
- Human caused wildland fires will be suppressed in every instance and will not be managed for resource benefits.
- Once a wildland fire has been managed for suppression objectives, it may never be managed for resource benefit objectives.

- The Appropriate Management Response (AMR) is any specific action suitable to meet Fire Management Unit (FMU) objectives. Typically, the AMR ranges across a spectrum of tactical options (from monitoring to intensive management actions). The AMR is developed by using FMU strategies and objectives identified in the Fire Management Plan.
- The Wildland Fire Situation Analysis process is used to determine and document the suppression strategy from the full range of responses available for suppression operations. Suppression strategies are designed to meet the policy objectives of suppression.
- Wildland fire use is the result of a natural event. The Land/Resource Management Plan, or the Fire Management Plan, will identify areas where the strategy of wildland fire use is suitable. The Wildland Fire Implementation Plan (WFIP) is the tool that examines the available response strategies to determine if a fire is being considered for wildland fire use.
- When a prescribed fire or a fire designated for wildland fire use is no longer achieving the intended resource management objectives and contingency or mitigation actions have failed, the fire will be declared a wildfire. Once a wildfire, it cannot be returned to a prescribed fire or wildland fire use status.

The 1986 Forest Plan established protection goals, objectives, and standards and guidelines pertaining to wildland fire management. As stated in the 1986 Forest Plan, general direction, policy and technologies will be considered with implementation of fire management activities. A change in fire policy was adopted with the Review and Update of the 1995 Federal Wildland Fire Management Policy, and implemented in 1998 with the agency adoption of the Prescribed Fire Management Policy (August 1998) and emphasis on implementing the appropriate management response for all wildland fire, which uses different terminology than that used in the Forest Plan. In addition, fire management processes that were outlined in the Forest Plan and wilderness fire management guidebooks were different than what were put forth in the new federal fire policies. Because of the changes in policy, the direction pertaining to wildland fire management activities in the 1986 Forest Plan was amended in June of 2008 (Forest Plan Amendment 2008-01). Since the 1986 Forest Plan was approved, there were some changes to accepted fire terminology. Forest Plan Amendment 2008-01 reflects this change in terminology. Figure 1 contains currently accepted Forest Service Manual fire terminology.

Figure 1 - Current Forest Service fire terminology

Wildland fire	Any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.
Appropriate management response	Any specific action suitable to meet fire management unit objectives. Typically, the appropriate management response ranges across a spectrum of tactical operations (from monitoring to intensive management actions). The appropriate management response is developed by using fire management unit strategies and objectives identified in the fire management plan.

Wildland fire use	The application of the appropriate management response to naturally ignited wildland fires to accomplish specific resource management objectives in predefined designated areas outlined in fire management plans.
Prescribed fire	Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act requirements must be met prior to ignition.
Wildfire	An unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, and all other wildland fires where the objective is to put the fire out.
Wildland Fire Situation Analysis	A decision making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.
Wildland Fire Implementation Plan	A comprehensive implementation plan consisting of three distinct stages progressively developed for wildland fires managed for resource benefits.
Maximum management area	The maximum geographic limits of spread within which a wildland fire use fire is allowed to spread.
Confine/ Contain/ Control	These terms are no longer used to describe a suppression strategy. However, in this FMP the definitions will continue to describe the strategies as defined in the Forest Plan. Forest Plan revision is scheduled for completion in 2010; these terms will be addressed then.
Preparedness Level and ERC	Actions to be taken at increasing levels of fire severity and activity. Adjective rating for fire danger.

When the 1986 Forest Plan was approved, wildland fire use was referred to as either prescribed natural fire, unplanned ignition, or wilderness fire. Most fire managers and agency administrators considered wildland fire use as a variant of prescribed fire. Wildland fire use, based on Federal Fire Policy direction is a direct component of wildland fire management. It is a management action equal to wildfire suppression and thus constitutes an emergency action. (Interagency Wildland Fire Use Implementation Procedures Guide May 2005). Forest Plan Amendment 2008-01 updated the language regarding wildland fire use to be consistent with current terminology. It is possible that terminology will change again in the future, so the term “wildland fire use” will be considered synonymous with “managing unplanned ignitions for resource benefits.”

Section III - Wildland Fire Management Strategies

The following section describes the general forest characteristics and guidance as well as individual FMU area characteristics and guidance, which are important to managers for AMR decision-making. An FMU is any land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, and major fire regime groups, which set it apart from the management characteristics of an adjacent FMU.

A. General Management Considerations

Wildland fire is managed according to the prescription parameters in the Forest Plan, which are reflected in the appropriate management response. Core principles of A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment (August 2001) are adopted in the local fire management strategies as well as the policy implementing strategies put forth by the Wildland fire Leadership Council in the Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy (June 2003).

The Shoshone National Forest collaborates with interagency partners in developing the Wyoming Interagency Cooperative Fire Protection Agreement, Wyoming Interagency Fire Restriction Plan, and the Greater Yellowstone Area Interagency Fire Management Plan. The Forest participates in the Cody Interagency Dispatch Zone Coordination Group, and the Rocky Mountain and Northern Region Coordinating Groups. The Forest also supports the interagency helicopter at Ft Washakie.

Priority setting is accomplished at all levels: districts/zones¹ within the Forest, the Forest level, interagency dispatch level, regional, inter-regional, and national. The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.

The budget is proposed based on a NFMAS analysis for suppression or fuels projects developed locally. Fiscal accountability is generated within the budgetary process. Training and experience is monitored through the redcard committee process.

B. Wildland Fire Management Goals

The following sections represent a distillation of goals, desired conditions, standards and guidelines or other direction pertaining to wildland fire management activities and that are derived from the Forest Plan. They are expressed in general terms and have no specific period to be completed.

¹ The Shoshone National Forest is comprised of five ranger districts. The Clarks Fork, Greybull, and Wapiti Ranger Districts are known informally as the north zone. The Washakie and Wind River Ranger Districts are known informally as the south zone

1. Forest Plan Goals, Desired Condition, and Direction

a) Goals (Desired Conditions) and Objectives

- Wildland fire receives an appropriate management response based on ecological, social, economic, and legal consequences of the fire. Wildland fire plays a role within and outside of wilderness where appropriate and desirable, but active suppression of fire occurs where necessary to protect life, investments, and valuable resources. Valuable resources include the wildland urban interface, utility corridors and communication sites. Other valuable resources include public water supply, recreation facilities, administrative sites, range allotments, special management areas, fish and wildlife habitats, and lands suitable for timber production (Forest Plan Amendment 2008-01, page 2).
- Allow natural succession to proceed without human intervention in designated wilderness, wilderness study areas, and special management areas (Forest Plan 1986, page III-6).
- Improve the health and vigor of vegetation types outside wilderness and selected types in wilderness where necessary (Forest Plan 1986, page III-6).
- Integrate vegetation management with resource management in functional areas – range, recreation, water and wildlife (Forest Plan 1986, page III-7).
- Reduce the accumulation of natural fuels (Forest Plan 1986, page III-8).

2. Forest General Direction

a) Wildland Fire Management

Both unplanned ignitions² and prescribed fire are used as tools to achieve and maintain vegetation conditions and desired fuel levels. Fire operates within historical fire regimes appropriate to the vegetation type and management objectives. Prescribed fire plays a role in areas where managing unplanned ignitions for resource benefits is not appropriate because of high values. Fire management strategies are designed to achieve land management protection or benefit objectives, are cost effective, and meet safety objectives for firefighting and the public(Forest Plan Amendment 2008-01, page 3).

b) Wilderness Area Management

Permit lightning caused fires to play, as nearly as possible, their natural ecological role within wilderness (Forest Plan Amendment 2008-01, page 9).

² Current federal wildland fire management policy limits managing wildland fire for resource benefits to unplanned *natural* ignitions. Unplanned *human* ignitions cannot be managed for resource benefits at this time. Additionally, federal policy does not permit the management of wildland fire for both a suppression objective and a resource benefit objective at the same time. Once a fire has been declared a wildfire, it cannot be managed for resource benefits. Federal wildland fire policy is subject to periodic reviews and updates and it is possible that in the future a wildland fire could be managed for both suppression and a resource benefit objectives. In addition, under some circumstances wildland fire that originated from unplanned human ignitions could be managed for resource benefits. If this change in policy were to occur, managing wildland fire for resource benefits from any unplanned ignition would be an option available to fire managers. Until this policy change occurs, wildland fire use would be authorized only for fires that originate from unplanned *natural* ignitions.

- c) Fuel Treatment
Prescribed fire will be utilized as a vegetative and fuels management technique where it is the most cost-efficient and acceptable alternative to achieve management objectives (Forest Plan 1986, page III-96).
- d) Air Resource Management
Comply with State and Federal air quality standards (Forest Plan 1986, page III-97).

3. Management Area General Direction

Management Area 1A Existing and proposed developed recreation sites
Management emphasis is for developed recreation in existing and proposed campgrounds, picnic grounds, trailheads, visitor information centers, summer home groups, and water-based support facilities. Proposed sites (sites scheduled for development in the Plan) are managed to maintain the site attractiveness until they are developed.

Facilities such as roads, trails, toilets, signs, etc., may be dominant but harmonize and blend with the natural setting. Livestock grazing is generally excluded from developed sites. Existing and proposed sites are withdrawn from locatable mineral entry.

Management Area 1B Existing and potential winter sports sites
Management emphasis provides for downhill skiing on existing sites and maintains selected inventoried sites for future downhill skiing recreation opportunities. Management integrates ski area development and use with other resource management to provide healthy tree stands, vegetative diversity, forage production for wildlife and livestock, and opportunities for non-motorized recreation.

Visual resources are managed so that the character is one of forested areas interspersed with openings of varying widths and shapes. Facilities may dominate, but harmonize and blend with the natural setting. Harvest methods in forested areas between ski runs is clearcutting in aspen and lodgepole pine, shelterwood in lodgepole pine and mixed conifers, and group selection in Engelmann spruce-subalpine fir, or as specified in the permit tee's site-specific master development plan.

Management Area 1D Provides for Utility Corridors
Management emphasis is for major oil and gas pipelines, major water transmission and slurry pipelines, electrical transmission lines, and transcontinental telephone lines. Management activities within these linear corridors strive to be compatible with the management goals of the management areas through which they pass.

Management Area 2A Semi-primitive motorized recreation opportunities
Management emphasis is for semi-primitive motorized recreation opportunities such as snowmobiling, four-wheel driving, and motorcycling both on and off roads and trails. Motorized travel may be restricted or seasonally prohibited to designated routes to protect physical and biological resources.

Visual resources are managed so that management activities are not evident or remain visually subordinate. Past management activities such as historical changes caused by early mining, logging and ranching may be present which are not visually subordinate but appear to have evolved to their present state through natural processes. Landscape rehabilitation is

used to restore landscapes to a desirable visual quality. Enhancement aimed at increasing positive elements of the landscape to improve visual variety is also used.

The harvest method by forest cover type is clearcutting in aspen and lodgepole pine; shelterwood in lodgepole pine, mixed conifer, and Engelmann spruce-subalpine fir; and selection in all-age mixed conifer and Engelmann spruce-subalpine fir. Mineral and energy resources activities are generally compatible with goals of this management area subject to appropriate stipulations provided in management activities 000-007 in Forest Direction.

Management Area 2B Rural and roaded natural recreation opportunities

Management emphasis is for rural and roaded natural recreation opportunities. Motorized and non-motorized recreation activities such as driving for pleasure, viewing scenery; picnicking, fishing, snowmobiling and cross-country skiing are possible. Conventional use of highway-type vehicles is provided for in design and construction of facilities. Motorized travel may be prohibited or restricted to designated routes to protect physical and biological resources.

Visual resources are managed so that management activities maintain or improve the quality of recreation opportunities. Management activities are not evident or remain visually subordinate along forest arterial and collector roads and primary trails. In other portions of the area, management activities may dominant in foreground and middle ground, but harmonize and blend with the natural setting. Landscape rehabilitation is used to restore landscapes to a desirable visual quality. Enhancement aimed at increasing positive elements of the landscape to improve visual variety is also used.

The harvest method by forest cover type is clearcutting in aspen and lodgepole pine, shelterwood in mixed conifer and Engelmann spruce-subalpine fir, and selection in all-age mixed conifer and Englemann spruce-subalpine fir.

Management Area 3A Semi-primitive non-motorized recreation in roaded or non-roaded areas

Management emphasis is for semi-primitive non-motorized recreation in both roaded and unroaded areas. Recreation opportunities such as hiking, horseback riding, hunting, cross-country skiing, etc., are available. Seasonal or permanent restrictions on human use may be applied to provide seclusion for wildlife such as nesting for raptor birds, big-game rearing areas, and mammals (mountain lion, wolverine, etc.) with large home ranges. Visual resources are managed so that management activities are not visually evident or remain visually subordinate.

Investments in compatible resource uses such as livestock grazing, mineral exploration and development, etc., occur, but roads are closed to public use. Commercial and noncommercial tree harvest occurs. The harvest method by forest cover type is clear cutting in aspen and lodgepole pine; shelterwood in lodgepole pine, Englemann spruce-subalpine fir and mixed conifers; and selection in all-age stands of Englemann spruce-subalpine fir.

Management Area 3B Primitive recreation in unroaded areas

Management emphasis is for primitive recreation experience in unroaded areas outside of wilderness. Management perpetuates essentially natural conditions and remoteness from mechanized human activities. Management activities are integrated in such a way that current human use leaves no permanent or long lasting evidence.

Visual resources are managed so that management activities are not visually evident. Prescribed fires are employed to manage vegetation. Term permit and recreational livestock grazing occurs, but new permanent structures other than corrals, fences, and water developments are not allowed.

Management Area 4B Habitat for Management Indicator Species

Management emphasis is on the habitat needs of one or more Management Indicator Species. Species with compatible habitat needs are selected for an area. The goal is to optimize habitat capability, and thus numbers of the species. The prescription can be applied to emphasize groups of species, such as early succession dependent or late succession dependent, in order to increase species richness or diversity.

Vegetation characteristics and human activities are managed to provide optimum habitat for the selected species, or to meet population goals jointly agreed to with the state fish and wildlife agencies. Tree stands are managed for specific size, shape, interspersion, crown closure, age structure and edge contrast. Grass, forbs, and browse vegetation characteristics are regulated. Rangeland vegetation is managed to provide needed vegetation species composition and interspersed grass, forb and shrub sites or variety in age of browse plants. Fish habitat improvement treatments are applied to lakes and streams to enhance habitats and increase fish populations.

Recreation and other human activities are regulated to favor the needs of the designated species. Roaded natural recreation opportunities are provided along forest arterial and collector roads. Local roads and trails are either open or closed to public motorized travel. Semi-primitive motorized recreation opportunities are provided on those local roads and trails that remain open; semi-primitive non-motorized opportunities are provided on those that are closed. A full range of tree harvest methods and rangeland vegetation treatment methods are available. Investments in other compatible resource uses may occur, but will be secondary to habitat requirements. Management activities may dominant in foreground and middle ground, but harmonize and blend with the natural setting.

General Direction

Maintain fuel conditions that permit fire suppression and prescribed fire to maintain habitat needed for selected species or species population levels (Forest Plan 1986, page III-152).

Management Area 4D Aspen management

Management emphasis is on maintaining and improving aspen sites. Other tree species, if present, are de-emphasized. Aspen is managed to produce wildlife habitat, wood products, visual quality, and plant and animal diversity. On larger areas, a variety of aspen stand ages, sizes, shapes and interspersion are maintained. Both commercial and noncommercial treatments are applied. Even-aged management is practiced and is achieved by clearcutting. Diversity objectives are achieved by varying the size, age, shape and interspersion of individual stands. Management activities in foreground and middle ground are dominant, but harmonize and blend with the natural setting. Individual treatments generally are smaller than 40 acres.

Recreational opportunities available are semi-primitive non-motorized and motorized or roaded natural. Some temporary or seasonal road and area use restrictions are implemented

to prevent disturbance of wildlife or improve hunting and fishing quality. Investments in other compatible resources occur. Livestock grazing can occur, but is subordinate to wildlife habitat needs and required protection of young aspen needed for regeneration.

Investments in other compatible resources occur. Livestock grazing can occur, but is subordinate to wildlife habitat needs and required protection of young aspen needed for regeneration.

General Direction – Wildlife Habitat Improvement and Maintenance
Clearcut, burn or treat aspen mechanically to in order to promote suckering and revegetation of aspen patches (Forest Plan 1986, page III-155)

General Direction – Fuel Treatment
Apply prescribed burning to regenerate aspen and to benefit wildlife (Forest Plan 1986, page III-157)

Design fuelwood cutting unit boundaries that do not cross adjacent aspen clone boundaries (Forest Plan 1986, page III-157)

Protect snags during fuelwood cutting and prescribed burning (Forest Plan 1986, page III-157)

Management Area 5A Big game winter range in non-forested areas

Management emphasis is on winter range for deer, elk, pronghorns, bighorn sheep, and mountain goats. Treatments are applied to increase forage production of existing grass, forb and browse species or to alter plant species composition. Prescribed burning, seeding, spraying, planting and mechanical treatments may occur. Browse stands are regenerated to maintain a variety of age classes and species.

Investments in compatible resource activities occur. Livestock grazing is compatible, but is managed to favor wildlife habitat. Structural range improvements benefit wildlife.

Management activities are not evident, remain visually subordinate, or are dominant in the foreground or middle ground, but harmonize or blend with the natural setting.

Roads may be closed permanently or seasonally and new motorized recreation use is managed to prevent unacceptable stress on big game animals during the primary big game use season.

Management Area 5B Big game winter range in forested areas

Management emphasis is on forage and cover on winter ranges. Winter habitat for deer, elk, bighorn sheep and mountain goats is emphasized. Treatments to increase forage production or to create and maintain thermal and hiding cover for big game are applied. Tree stand treatments can be clearcut, shelterwood, single tree selection or group selection.

Commercial and noncommercial stand treatments occur. Specific cover-opening ratios and stand designs are maintained. Treatments to grass, forb, browse and noncommercial tree species include seeding, planting, spraying, burning, falling and mechanical chopping or crushing. A variety of browse age classes are maintained. Continuous forest cover is maintained on some sites.

Investments in compatible resources occur. Livestock grazing is compatible, but is managed to favor wildlife habitat. Structural range improvements benefit wildlife. Management activities

are not evident, remain visually subordinate, or dominate in the foreground and middle ground, but harmonize and blend with the natural setting.

Roads may be closed permanently or seasonally and new motorized recreation use is managed to prevent unacceptable stress on big game animals during the primary big game use season.

Management Area 7E Wood fiber production and utilization

Management emphasis is on wood-fiber production and utilization of large roundwood of a size and quality suitable for sawtimber. The harvest method by forest cover type is clearcutting in aspen and lodgepole pine; shelterwood in Engelmann Spruce-subalpine fir, lodgepole pine, and mixed conifers; and selection in all-age stands of Englemann spruce-subalpine fir.

The area generally will have a mosaic of fully stocked stands that follow natural patterns and avoid straight lines and geometric shapes. Management activities are not evident or remain visually subordinate along forest arterial and collector roads and primary trails. In other portions of the area, management activities may dominant in foreground and middle ground, but harmonize and blend with the natural setting.

Roaded natural recreation opportunities are provided along forest arterial and collector roads. Semi-primitive motorized recreation opportunities are provided on those local roads and trails that remain open. Semi-primitive non-motorized opportunities are provided on those that are closed.

Management Area 8A Pristine wilderness opportunities

Management emphasis is for the protection and perpetuation of essentially pristine biophysical conditions and a high degree of solitude for both wildlife and humans with no perceptible evidence of past human use.

All resource management activities are integrated in such a way that evidence of current human use, including term permit and recreation livestock, is not noticeable the following season, or so that natural biological processes are not adversely or artificially changed over time by human use.

Management Area 8B Primitive wilderness opportunities

Management emphasis is to provide for the protection and perpetuation of natural biophysical conditions. On-site regulation of recreation use is minimal. Travel is cross-country or by use of a low density constructed trail system.

Management Area 8C Semi-primitive wilderness opportunities

Management emphasis is to provide for the protection and perpetuation of essentially natural biophysical conditions. Solitude and a low level of encounters with other users or evidence of past use is not an essential part of the social setting. Human travel is principally on system trails. Designated campsites are used and show evidence of repeated, but acceptable levels of use.

All resource management activities are integrated in such a way that current human use leaves only limited and site specific evidence of their passing. Areas with evidence of unacceptable levels of past use are rehabilitated and the affected area restored. Range

allotments with authorized permanent structures, and authorized mineral exploration activities requiring multiyear surface occupancy facilities may be present within the area. Scientific and other authorized practices utilizing non-motorized equipment but requiring up to season long occupancy are compatible.

Management Area 8E Management of the Glacier Addition [Whiskey Mountain] to the Fitzpatrick Wilderness

This prescription implements the portions of the Wyoming Wilderness Act of 1984, which pertain to this area. The Act specially addresses bighorn sheep and recognizes them as an integral part and resource highlight of this wilderness area. Management emphasis is to provide natural biophysical conditions, which will maintain or enhance bighorn sheep and their habitat while protecting wilderness values. Area management will be responsive to priorities and goals expressed in the Whiskey Mountain Bighorn Sheep Comprehensive Management Plan, using the Wyoming Wilderness Act of 1984 and the Wilderness Act of 1964 as basic guides.

All resource management activities are integrated in such a way that current human use leaves only limited and site-specific evidence of their passing. Areas with evidence of unacceptable levels of past use are rehabilitated and the affected area restored. Range allotments with authorized permanent structures may be present within the area. Occasional motorized access may be allowed for administrative purposes and related activities for habitat management, trapping and transporting, and for other appropriate management of the bighorn sheep herd.

**Management Area
9A Riparian area management**

Emphasis is on the management of all of the component ecosystems of riparian areas. These components include the aquatic ecosystem, the riparian ecosystem (characterized by distinct vegetation), and adjust ecosystems that remain within approximately 100 feet measured horizontally from both edges of all perennial streams and from the shores of lakes and other still water bodies. All of the components are managed together as a land unit comprising an integrated riparian area, and not as separate components.

The goals of management are to provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water body shorelines. The aquatic ecosystem may contain fisheries habitat improvement and channel stabilization facilities that harmonize with the visual setting and maintain or improve wildlife or fish habitat requirements. The linear nature of streamside riparian areas permits programming of management activities that are not visually evident or are visually subordinate.

Forest riparian ecosystems are treated to improve wildlife and fish habitat diversity through specified silvicultural objectives. Both commercial and noncommercial vegetation treatments are used to achieve multi-resource benefits. Clearcutting is used to regenerate aspen clones. Other forest cover types are treated with either small group or single tree selection methods.

Livestock grazing is at a level that will ensure maintenance of the vigor and regenerative capacity of the riparian plant communities. Vehicular travel is limited on roads and trails at times when the ecosystems would be unacceptably damaged. Developed recreation facility construction for overnight use is prohibited within the 100-year floodplain.

The management area over which this prescription is to be applied will also be affected by several management activities in the Forest-wide direction. Most notable is the direction involving upland zones, in the water resource improvement and maintenance management activity, and elsewhere.

Management Area 9E Water impoundment site

Management emphasis is on needed water impoundments where beneficial effects are demonstrated and water rights have been obtained.

Management Area 10A Research natural area

Emphasis is on research, study, observations, monitoring and educational activities that are nondestructive and non-manipulative, and that maintain unmodified conditions.

Management Area 10D Management of the Clarks Fork of the Yellowstone River, which is recommended for inclusion in the Wild and Scenic Rivers System

Management emphasis is on river segments designated as a component of the National Wild and Scenic River System and those recommended for designation. Wild Rivers are managed to be free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and water unpolluted.

This prescription is applied to the Clarks Fork of the Yellowstone River, which has been administratively endorsed as a Wild River. The general direction and standards and guidelines provided herein are intended to reflect applicable provisions of the Wild and Scenic Rivers Act and other special provisions documented in the Final Environmental Impact Statement, which recommends inclusion. Such direction is intended to maintain the characteristics of the river that contribute to its eligibility for inclusion in the system, until Congress acts. The Forest Service will recommend denial of leases, permits, or activities not within its discretionary authority that could affect eligibility.

Management Area 10E Protection of existing wilderness characteristics of the High Lakes Wilderness Study Area

Management emphasis is for maintenance of existing wilderness resource characteristics. Management will perpetuate natural conditions and provide for semi-primitive non-motorized recreation opportunities such as hiking, horseback riding, hunting, and cross-country skiing. Snowmobiling is allowed during periods of snow cover. Permanent restrictions on motorized use are applied area-wide except for snowmobiles operating on snow. Term permit and recreational livestock grazing occurs, but new permanent structures are not allowed. Scientific and other authorized practices utilizing non-motorized equipment, but requiring up to season long occupancy are allowed. Visual resources are managed so that management activities are not visually evident.

Management Area 10F Protection of existing wilderness resource characteristics of the Dunoir Special Management Area

Management emphasis is for maintenance of existing wilderness resource characteristics. Management will perpetuate natural conditions and provide for primitive and semi-primitive non-motorized recreation opportunities such as hiking, horseback riding, hunting, and cross-country skiing. Permanent restrictions on motorized use are applied area-wide. Permitted and recreational livestock grazing occurs, but new permanent structures other than corrals, fences and water developments are not allowed. Scientific and other authorized practices

utilizing non-motorized equipment, but requiring up to season long occupancy are allowed. Visual resources are managed so that management activities are not visually evident. Prospecting or development of common varieties of mineral materials and coal leasing and coal exploration licenses are not allowed. Oil and gas exploration will not be recommended.

Snowmobile use is permitted.

4. Forest-wide Wildland Fire Management Standards

a) Wildland Fire Management

Firefighter and public safety is the priority in all fire management activities. Reduce firefighter and public injuries and loss of life, and damage to communities from unwanted wildland fires, by prioritizing firefighter and public safety above other concerns in fire management activities (Forest Plan Amendment 2008-01, page 4).

Managing unplanned ignitions to accomplish resource benefits is authorized Forest-wide where compatible with agency policy and other resource management direction and objectives. Wildland fire may be used to protect, maintain, and enhance resources and as nearly as possible be allowed to function in its natural role (Forest Plan Amendment 2008-01, page 4).

Every wildland fire that is not a prescribed fire will receive an appropriate management response. In implementing an appropriate management response, the full spectrum of tactical options, from monitoring a fire at a distance to intensive management actions are available (Forest Plan Amendment 2008-01, page 4).

For all unwanted wildland fires (wildfire), the over-arching goal of suppression will be applied in every case. The initial suppression action will usually focus on prompt and decisive control of the fire commensurate with firefighter and public safety and cost effectiveness. In the initial or subsequent suppression responses, a full and immediate control objective may be modified, and the commitment of resources and actions reduced, when:

- personnel cannot safely or effectively engage the fire,
- suppression resources necessary for a successful outcome are not available, or
- values to be protected and at risk from the fire are less than the expected cost of continuing an aggressive suppression effort (Forest Plan Amendment 2008-01, page 5).

Wildland fire can be managed through less aggressive tactical approaches when values of resources at risk are low, threats to exceed management capability are low, firefighter exposure and risk are high, and expected costs of aggressive suppression actions are high (Forest Plan Amendment 2008-01, page 5).

All human-caused wildland fire will be managed in a manner consistent with agency policies (Forest Plan Amendment 2008-01, page 5).

b) Fuel Treatment

A historical record will be maintained with each prescribed fire plan that documents the biological/physical effects and the fire behavior that produced the effects (Forest Plan 1986, page III-96).

Utilize current technologies to achieve an optimum balance between positive and negative effects, and prevent escaped fires (Forest Plan 1986, page III-96).

Reduce or otherwise treat fuels so the potential fireline intensity of an area will not exceed 400 BTUs/sec/ft (BI 68 or 4ft flame length) on 90% of the days during the regular fire season (Forest Plan 1986, page III-96).

Guidelines

c) Wildland Fire Management

Implementation information for wildland fire management activities will be described in the Fire Management Plan (Forest Plan Amendment 2008-01, page 5).

d) Cultural Resources

Wildland fire management activities should protect cultural resources when feasible with priority given to sites listed on the National Register of Historic Places, sites recommended for selection to the Register and to known unevaluated sites (Forest Plan Amendment 2008-01, page 6).

Fires within the Proposed Kirwin Historic Area should be suppressed. Use initial attack actions that keep fires as small as possible. For wildland fires that threaten to burn into the Historic Area, the appropriate management response should consist of strategies and tactics that keep fires from burning into the Historic Area (Forest Plan Amendment 2008-01, page 6).

e) Public Water Supply

For unwanted fires that start in the Sawmill Creek Sub-watershed, use aggressive initial attack actions that keep fires as small as possible. For unwanted wildland fires that threaten to burn into the Sub-watershed, the appropriate management response should include of strategies and tactics that keep fires from burning into the Watershed (Forest Plan Amendment 2008-01, page 6).

Use the most effective suppression strategies and tactics that have the least impact possible on water quality (Forest Plan Amendment 2008-01, page 6).

f) Research Natural Areas

Fires within research natural areas (established and proposed) should be suppressed when they threaten the values for which the research natural area was established or threaten other values outside of the research natural area. For unwanted wildland fires that threaten to burn into research natural areas, the appropriate management response should consist of strategies and tactics that keep fires from burning into research natural areas (Forest Plan Amendment 2008-01, page 6).

Use minimum impact suppression strategies and tactics when suppressing fires within research natural areas (Forest Plan Amendment 2008-01, page 7).

g) Swamp Lake Botanical Area

Fires within the Botanical Area should be suppressed. Use initial attack actions that keep fires as small as possible. For wildland fires that threaten to burn into the Botanical Area, the appropriate management response should consist of strategies and tactics that keep fires from burning into the Botanical Area (Forest Plan Amendment 2008-01, page 7).

Use minimum impact suppression strategies and tactics when suppressing fires within the Botanical Area. Avoid ground disturbing activities on sites where unique or sensitive plants exist (Forest Plan Amendment 2008-01, page 7).

h) Proposed Sawtooth Peatbed Geological Area

Fires within the Geological Area should be suppressed. Use initial attack actions that keep fires as small as possible. For wildland fires that threaten to burn into the Geological Area, the appropriate management response should include of strategies and tactics that keep fires from burning into the Geological Area (Forest Plan Amendment 2008-01, page 7).

Use minimum impact suppression strategies and tactics when suppressing fires within the Geological Area. Avoid ground disturbing activities on sites where unique or sensitive plants exist (Forest Plan Amendment 2008-01, page 8).

C. Wildland Fire Management Options

The Shoshone Forest Plan allows for the full range of appropriate management response options, from monitoring a fire at a distance to intense management actions. Management of unplanned ignitions for resource benefits is allowed Forest-wide except for specific areas where resource management objectives indicate protection as being the only option (Forest Plan Amendment 2008-01, page 4). Prescribed fire to meet fuels treatment and other resource management objectives is authorized for use on the forest as well. Direction regarding the implementation of fire management objectives and strategies, wildland fire use, initial response actions, and appropriate management response options for individual fire management units is described in Section III, Part E.

1. Appropriate Management Response

The appropriate management response concept provides managers with increased flexibility to implement a response appropriate to an individual set of circumstances and conditions to utilize a full range of responses.

Appropriate management response may be applied at all levels when managing a fire for resource benefits or as a wildfire, including initial attack.³ In some situations appropriate management response would be an action that managers may take and in others it would be an action managers must take depending on the circumstances in which a fire occurs and the preplanned objectives for an area. Examples of options managers may choose include:

- Monitoring from a distance
- Monitoring on-site
- Confinement
- Monitoring with limited contingency actions
- Monitoring with mitigation actions
- Initial attack
- Suppression with multiple strategies
- Control and extinguish

³ Initial attack is a planned response to a wildfire given the wildfire's potential fire behavior. The objective of initial attack is to stop the spread of the fire and put it out at least cost. An aggressive suppression action consistent with firefighter and public safety and values to be protected (National Wildfire Coordinating Group 2007).

- Any combination of some or all of the above as well as other options

For all unwanted wildland fire (wildfire), the overarching goal of suppression would be applied in every case. The initial suppression action (initial attack) would usually focus on prompt and decisive control of the fire commensurate with public and firefighter safety and cost effectiveness. If initial or subsequent actions fail, control objectives may be modified and the tactical options that comprise the appropriate management response may change. As described above, the range of responses could include monitoring, or aggressive suppression actions, or some combination. Firefighter and public safety, resource values to protect, expected fire behavior, availability of resources, and probability of success are some of the factors that would be used to determine the appropriate management response.

2. Managing unplanned ignitions for resource benefits (Wildland Fire Use)

Management of unplanned ignitions for resource benefits is allowed Forest-wide except for specific areas where resource management objectives indicate protection as being the only option (Forest Plan Amendment 2008-01, page 4).

A portion of the acres that are available for wildland fire use contain high valued resources and assets that may limit or narrow the range of circumstances in which wildland fire would be of benefit or the values to be protected could be successfully protected. Once ignition occurs, the potential benefits and effects will be analyzed. A decision will be made to either manage the wildland fire to accomplish resource benefits (wildland fire use) or as an unwanted wildland fire (wildfire). Implementation criteria for determining if unplanned ignitions will be managed for resource benefits include:

- Consideration of the resource benefits
- The risk of the fire is in terms of site-specific values, threats, and probability of negative impacts
- Whether the level of risk is acceptable to the Forest Service
- What strategic objective would be selected for management actions, strategy, and tactics

In some cases, it may be desirable to allow naturally ignited fires to burn in areas that are in need of vegetative regeneration, fuels reduction, or other resource objectives and the appropriate management response may consist of monitoring. In other cases, portions of a wildland fire use fire may receive intensive suppression actions due to the presence of homes or other important resources at risk. Potential fire management strategies and tactical options relative to Forest Plan resource objectives have been developed and are described in more detail with the each fire management unit and response zone (See Section III, Part D).

3. Prescribed Fire

Use of prescribed fire and/or mechanical treatments to accomplish natural and activity fuels reduction and other resource objectives is commensurate with all management areas with the exception of wilderness. Prescribed fire of natural vegetation in wilderness is limited to projects that enhance fire use. Prescribed fire projects in wilderness are analyzed and approved on a case-by-case basis in accordance with Forest Service Manual 2620 – Wilderness Management.

D. General Fire Management Unit Characteristics

1. Fire Management Units and Response zones

The Forest has been divided into six fire management units (Figure 2). Each fire management unit (FMU) is sub-divided into the three management response zones (Figure 3). The fire management units and response zones (see Map 1) have been developed based on the Forest Plan goals and resource objectives; values at risk; administrative and jurisdictional responsibilities; weather, fire behavior, fuels and fire history characteristics; access; and logistical support requirements. The FMUs are not the same units used to analyze the Forest's current fire suppression program in IIAA-NFMAS. The Fire Management Zone (FMZ) analysis was limited to two zones, wilderness and non-wilderness, because of the number of fires and supporting data in the Forest Plan. The FMUs are similar to those that are being used for the 2011 fire program analysis referred to as FPA (Fire Program Analysis).

Figure 2. Fire Management Units

FMU #	Name	Description
1	Clarks Fork	Unit boundaries are the same as the Clarks Fork Ranger District of the Shoshone National Forest.
2	North Fork	Unit boundaries consist of that portion of the North Fork of the Shoshone River drainage within the Wapiti Ranger District of the Shoshone National Forest.
3	South Fork	Unit boundaries consist of that portion of the South Fork of the Shoshone River drainage within the Wapiti Ranger District of the Shoshone National Forest.
4	Greybull	Unit boundaries are the same as the Greybull Ranger District of the Shoshone National Forest.
5	Wind River	Unit boundaries are the same as the Wind River Ranger District of the Shoshone National Forest.
6	Washakie	Unit boundaries are the same as the Washakie Ranger District of the Shoshone National Forest.

Figure 3. Fire Management Response Zones

MRZ #	Name	Associated Forest Plan Management Areas
01	Full Suppression	Swamp Lake Botanical Area Proposed Sawtooth Peatbed Geological Area Active timber sale areas Other areas where conditions warrant the need for protection from fire
<p>Wildland Fire Management Objectives and Appropriate Management Response Options</p> <p>Forest Plan resource management objectives in this response zone indicate that all unplanned ignitions are to be managed for suppression objectives. Managing a fire for resource benefits is not an option.</p> <p>Unplanned ignitions are considered to be unwanted fires and initial attack responses will consist of the safest and most effective and cost efficient actions to contain and control fires as quickly</p>		

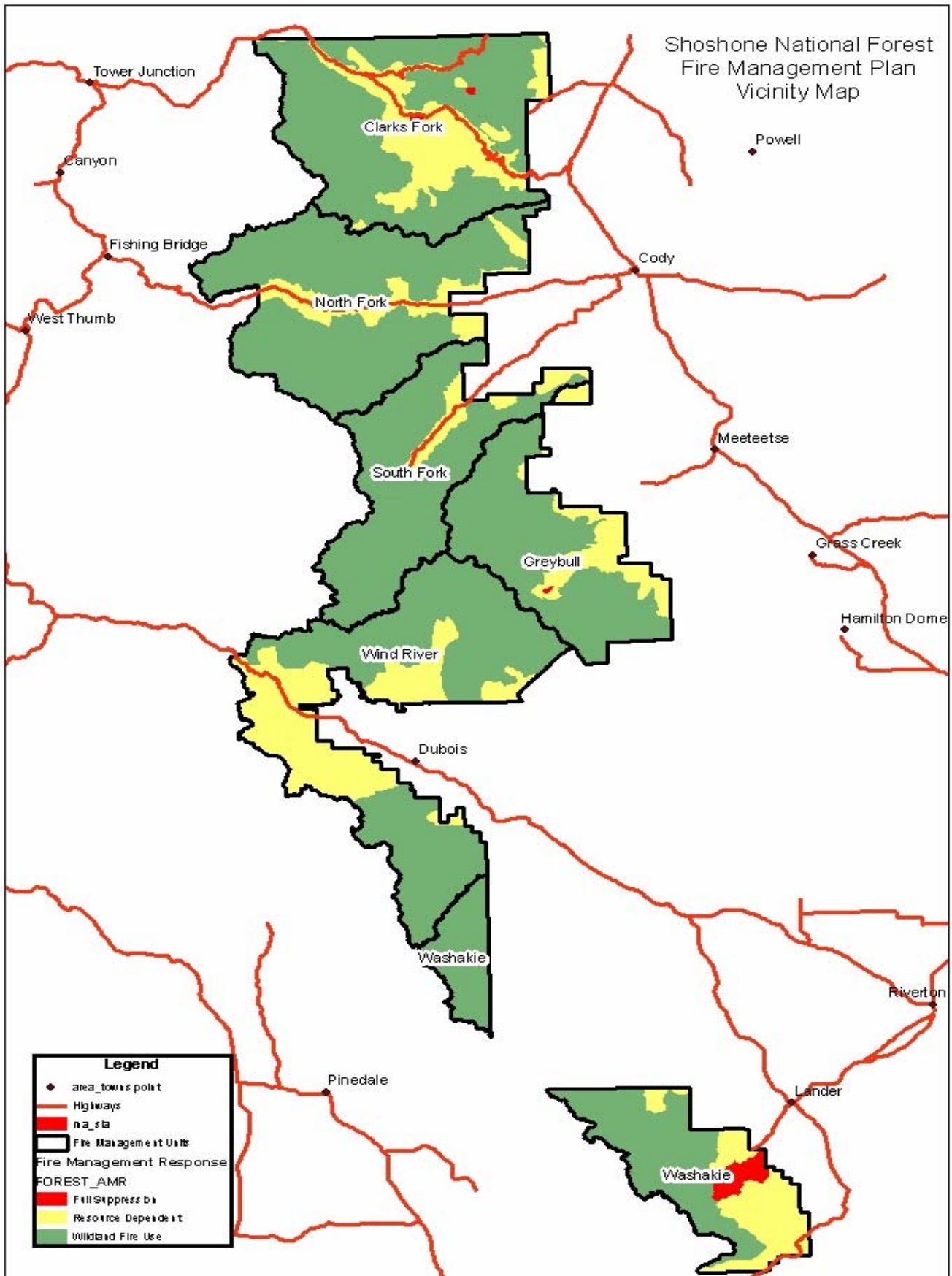
MRZ #	Name	Associated Forest Plan Management Areas
<p>as possible. Extended attack management strategies and tactics should be designed to minimize the resource damage from a wildfire as much as possible. Fires from outside the Full Suppression Response Zone that threaten resources within Zone should be managed in manner that prevents resource damage or loss. In situations where firefighter safety may be compromised or the probability of successfully protecting the resource values is low, management response tactical options other than those designed to achieve full suppression would be implemented.</p>		
MRZ #	Name	Associated Forest Plan Management Areas
02	Resource Dependent	2A, 2B, 4A, 4B, 5A, 5B, 7E, 9A, 10D
<p>Wildland Fire Management Objectives and Appropriate Management Response Options Forest Plan resource management objectives in the Resource Dependent Response Zone indicate that all unplanned ignitions⁴ may be managed for either suppression objectives or resource benefit objectives. This response zone is generally comprised of the low to middle elevations that contain a concentration of high valued resources and private property.</p> <p>Wildland fire use is an option in the Resource Dependent Response Zone, however, the values present limit or narrow the range of circumstances in which wildland fire would be of benefit or the values at risk can be successfully protected.</p> <p>The full range of appropriate management response options are available in the Resource Dependent Zone. Due to the presence of high resource values and private property in some areas, the use of intensive fire management actions to achieve full perimeter containment and control on unwanted fires may be necessary. Other strategic options likely to be implemented on unwanted fire as well as wildland fire use incidents include such things as partial perimeter control or intensive point protection measures. Unplanned ignitions that start within the Resource Dependent Response Zone, but are burning away from high values and towards areas where resource benefits are possible may be managed as wildland fire use incident and depending on the circumstances, may require less intensive management.</p> <p>Initial response to fires within the Resource Dependent Response Zone will require an assessment as to whether or not the fire is a wildland fire use candidate. The Duty Officer/AFMO/FMO begins this assessment immediately by evaluating the probable cause and location of the fire relative to resource values. Commensurate with the assessment, initial attack resources are dispatched to a fire under the assumption that the fire is to receive a suppression response unless directed otherwise. Human caused fires are classed as an unwanted fire and will receive a suppression response.</p> <p>Initial attack responses to an unwanted fire will consist of the safest and most effective and cost efficient actions to contain and control the fire as quickly as possible. Extended attack management strategies and tactics should be designed based on the values threatened. Fires threatening high value resources and private property are likely to receive more intensive management action. In situations where resource values are low, or firefighter safety may be compromised or the probability of successfully protecting the resource values is low, management response tactical options other than those designed to achieve full suppression would be implemented.</p>		

⁴ Current federal wildland fire management policy allows for only natural ignitions to be managed for resource benefits

MRZ #	Name	Associated Forest Plan Management Areas
03	Wildland Fire Use	2A, 2B, 4A, 4B, 5A, 8A, 8B, 8C, 8E, 9A, 10A, 10D, 10E, 10F
<p>Wildland Fire Management Objectives and Appropriate Management Response Options</p> <p>Forest Plan resource management objectives in the Wildland Fire Use Response Zones indicate that all unplanned ignitions⁵ may be managed for either suppression objectives or resource benefit objectives. The Forest Plan emphasis for resources in this zone is to allow fire to play its natural role as much as possible and to use fire to meet other resource objectives. This response zone is generally comprised of the middle to high elevations where the opportunity to manage unplanned ignitions for resource benefits is the greatest. Wilderness and other primitive and semi-primitive areas are prevalent. The Zone is generally unroaded with the exception of a few areas that have limited or restricted use of roads. Developments, facilities, structures and private property are present but are scattered and occur infrequently.</p> <p>The full range of appropriate management response options are available in the Wildland Fire Use Response Zone. The potential for resource damage or loss from fire in the Wildland Fire Use Response Zone is generally low and the potential for benefits is high. Appropriate management responses options for wildland fire use and unwanted fires that escape initial attack would most likely consist of less intensive actions such as monitoring or partial perimeter control unless high values are threatened. Protection of developments, facilities and structures may require intensive actions as well as other situations where nearby or distant values that are threatened warrant more intensive management actions.</p> <p>Initial response to fires within the Wildland Fire Use Response Zone will require an assessment as to whether or not the fire is a wildland fire use candidate. The Duty Officer/AFMO/FMO begins this assessment immediately by evaluating the probable cause and location of the fire relative to resource values. Human caused fires are classed as an unwanted fire and will receive a suppression response. Initial response resources are dispatched to a fire under the assumption that the fire is a potential wildland fire use candidate and would not begin suppression actions unless directed otherwise.</p> <p>Initial attack responses to an unwanted fire will consist of the safest and most effective and cost efficient actions to contain and control the fire as quickly as possible. Extended attack management strategies and tactics should be designed based on the values threatened. Fires threatening high value resources and private property are likely to receive more intensive management action. In situations where resource values are low, or firefighter safety may be compromised or the probability of successfully protecting the resource values is low, management response tactical options other than those designed to achieve full suppression would be implemented.</p>		

⁵ Current federal wildland fire management policy allows for natural ignitions to be managed for resource benefits.

Map 1. Fire Management Units and Response Zones on the Shoshone National Forest



Management Constraints or Criteria Affecting Operational Implementation

Forest Plan standard and guidelines have identified some specific measures to ensure selected resources are protected from the effects of fire and fire suppression operations. Additional guidance for protecting resources values and rehabilitation standards are derived from consultation with specialist, other manual direction, laws, and guides. An inventory and description of the resources present are included with the guidance for each fire management unit (Section III). A complete list of the resource protection measures and post-fire rehabilitation standards are located in Appendix H.

Fire management constraints and objectives identified in the fire management plan are designed to provide for the protection of key resources. These protection measures need to be communicated to firefighters and incident management teams. Local fire managers and firefighters periodically review the contents of the fire management plan to ensure they are familiar with the implementation direction. Incident management teams and firefighters from outside the area receive briefings and delegations of authorities that are intended to provide them with the direction and information needed to implement the protection measures.

2. Historical Fire Occurrence

Since 1970, the Forest has averaged 26 wildfires annually. Excluding 1988, lightning-caused fires burned 87 percent of the acreage, campfires burned 5 percent, and all other human causes burned 8 percent. Due to persistent drought and widespread insect epidemics in combination with changes in fire management philosophy, the trend in acreage burned since 1998 has been increasing. The annual average acres burned for the past 30 years is approximately 7,200 acres. The annual ten-year average is over 8,900 acres; the annual average for the last five years is approximately 16,400 acres burned.

During the summer of 1988, the Clover and Mist Fires burned 194,430 acres. Fires of this size are considered low in frequency, one in a hundred year occurrence; the importance of the two events is recognized as normal in the natural fire ecology of the Shoshone National Forest. Considering the rare occurrence in conjunction with fires analyzed in the historical period, the annual acres burned are 2,334. Fire data (1909 - 1982) in the Forest Plan shows the fire occurrence about the same as today but with 873 acres burning annually. Before 1900, fire history studies indicate areas equal or larger to Clover/Mist burned on the Forest.

Fires in 2003 were record setting from most points of view. Total acreage burned was 26,094. Number of fires was 48. Number of starts in a day set a new record of 5 (August 10, 2003). Consecutive days with multiple starts set a record with 8.

The 2006 fire season was significant on the Forest. Low snow pack, below average spring precipitation, and a widespread insect epidemic resulted in conditions conducive to stand replacement type fires in low frequency fire regimes. Although the number of fires recorded were near average, the total acres burned exceeded 40,000. Large fire growth began in earnest in mid July and continued until early September.

The 2007 fire season continued to reflect the trend of large fire growth resulting from the build-up of fuels on the Forest and persistent drought conditions. Again the

number of fires were near average, but the total acres burned were on the Forest were approximately 5,700 acres. The Citadel Fire began in mid-June and burned approximately 2,000 acres and the Columbine Fire, which originated during August in Yellowstone National Park, burned approximately 3,700 acres on the Forest. Total acres burned for the Columbine Fire was approximately 18,000 acres.

Natural ignitions account for 51% of the fire starts (87% of the acres burned). Human-caused fires account for 49% of historical fire occurrence (13% of the acres burned); escaped campfires reflect 60% of these ignitions. Fire size classes A and B account for 90% of the fires. The annual fire occurrence for each FMU was generated from PC Historical Analysis (PCHA) using representative locations (RL) to determine wildland fire distribution. Large fires have occurred all months of the established season but typically are anticipated in August and September.

Figure 4. Fires by FMU and cause

Annual Fires	Annual Acres	Percent of fires by Cause Class				
		Lightning	Smoking	Campfire	Debris Burning	Miscellaneous
26	2,233	51%	6%	34%	2%	7%

3. The Fire Management Situation

a) Weather Patterns

The prevailing climate is categorized as “continental mountainous.” Moisture is brought into the Greater Yellowstone Area from storms tracking west to east. As the storms are forced up and over the continental divide, moisture is leached from the storm system at the upper elevations. The average annual precipitation, ranging from 15 to 70 inches, varies with topography and elevation. Eighty percent of the precipitation in the upper elevations occurs in the winter and spring; thunderstorms in the summer provide 20%. In the lower elevations, seasonal distribution of precipitation shifts to a lower accumulation with the same seasonal percent distribution. Typical summer temperatures vary with elevation; highs ranging from 65 to 90 degrees and lows from 35 to 60 degrees are common with respect to elevation. The average summer relative humidity varies also with elevation and topography; relative humidities of single digits are not uncommon in the upper elevations while the lower drainages are measuring 30%. During the established fire season, a typical summer sees numerous thunderstorms and 23 cold front passages.

b) Fire Season Determination

PCHA with 34 years of data was used to determine the annual average fire season, June 1 to October 25. Seasonal fire crews are employed from June 1 through September 30 (122 days). Crew leaders are employed longer to address pre- and post- fire season preparation activities.

c) Fuel Conditions

Vegetation within the Forest is classified into five broad communities: alpine, coniferous forest, montane meadow-parkland, sage-grass, and riparian. Coniferous forest represents the largest vegetation type on the Forest. National Fire Danger Rating System fuel model G is most typical of the coniferous forest fuel bed. Low rate of spread accompanied with high heat intensity typifies this model but in drought years, high rates of spread have been observed from wind and plume dominated crown fires. In review of large fires on this Forest, the

coniferous forest has been the primary carrier of fire and is the only fuel type represented in the suppression analysis.

Insect and disease infestations have become epidemic on most of the Forest, and fuel model characteristics are changing. The Forest is experimenting with fuel model modification using FARSITE to better match the changing condition.

d) Fire Regime and Condition Class

The Forest is represented by fire regimes II, III, IV and V. Most of the Forest falls within condition class 1 and 2. The method used to determine condition class is GTR-RMRS-87, Table 2, and Fire Regime Condition Class description.

Figure 5. Fire regime condition class acres

Fire regime	Condition class	Fire return interval	Burn severity	Acres	Percent
II	1	35 – 70 years	Stand replacement	1,745	0.1
	2			26,662	1
III	1	35 -100 years	Mixed	26,376	1
	2			551,075	23
IV	1	70 - 150 years	Stand replacement	1,003,684	41
V	1	200 – 300 years	Stand replacement	499,800	21
Barren	None	None	None	328,298	13

e) Dominant Topographic Features

The Forest is located in the northern Rocky Mountains bordering the continental divide on the east side. These mountains consist of north/south trending ranges with drainage to the east. The drainage alignment in conjunction with the west to southwest wind patterns promote large fire growth west to east, depicted by historic burn patterns. Large fires are likely to spread to the east, from federal to private land.

The extreme topographic relief and marginal access across the Forest affects fire management activities. Suppression and prescribed fire rely on air support, livestock, or extended foot travel to implement activities.

f) Other Elements

The Forest has common boundaries with Yellowstone National Park; Bridger-Teton National Forest, Region 4; Lander Bureau of Land Management; Wind River Reservation; Worland Bureau of Land Management; and Custer and Gallatin National Forests, Region 1. The federally owned lands, with the exception of the Bureau of Land Management lands, are commonly referred to as the Greater Yellowstone Area. Portions of the Forest are found in Park, Hot Springs, and Fremont counties. Wyoming state land and private lands also border national forest land. Annual and daily cooperation affect local fire management activities.

The wildland urban interface scenario on the Forest includes interface areas with in the Forest boundary and communities adjacent or near the Forest. The 33,000 acres of private lands within the Forest boundary contain some structures as well

areas that typify a wildland interface subdivision. Structures associated with special use recreational residence and resorts exceed 300 buildings throughout the Forest. Structures and Interface areas are listed and mapped for each FMU (Appendix A)

Three federal highways, three state routes, and numerous Forest roads and trails provide access to the Forest. Only 25% of the Forest is roaded. The three federal highways also provide access to Grand Teton National Park and Yellowstone National Park.

4. Values at risk

When implementing any wildland fire management strategy, firefighter and public safety is the first priority, followed by protection of valued resources and assets in a cost efficient manner. The same principles apply whether a fire is being managed as an unwanted wildland fire or for wildland fire use.

The decision to manage a fire for resource benefits is subject to a given set of circumstances in which the probability of success is judged to be high. It is also important to note that the circumstances in which decisions are made will vary over time and space in any given season and from year to year. In addition to ensuring public and firefighter safety, elements of success for managing a fire for resource benefits or suppression objectives include outcomes in which valued (ecological and financial) resources and property are not subject to significant damage or loss.

The areas of the Forest where managing wildland fire for resource benefits is most likely to occur are designated on Figure 3 as the Wildland Fire Use Management Response Zone. The areas displayed as the Resource Dependent Management Response Zone contain concentrations of high valued resources and private property that limit or narrow the range of circumstances in which wildland fire would be of benefit or the values to be protected could be successfully protected. The Resource Dependent Management Response Zones on the Forest contain the following values.

- Wildland urban interface,⁶ comprised of private property with structures adjacent to the Forest, private inholdings, utility corridors, Forest Service administrative sites, and permitted lodges and recreation residences
- Developed recreation sites
- Lands suitable for timber production
- The Sawmill Creek drainage which serves as the source of the Lander public water supply
- The Lodgepole Creek watershed

Some of the values listed above occur in areas on the Forest designated as the Wildland Fire Use Management Response Zone. A decision to allow wildland fire use and development of the appropriate management response anywhere on the Forest would still include avoiding damage or loss to valued resources and assets. Resource management benefits or protection objectives identified in the Forest Plan, would serve as the basis for developing fire management strategies and objectives.

⁶ Wildland urban interface refers to the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels (National Wildfire Coordinating Group 2007).

a) Wildland urban interface

Local fire departments and agencies are responsible for structure protection; management of wildland fires burning on the Shoshone National Forest is the responsibility of the Forest Service. Keeping fires from reaching structures and private property adjacent to the Forest as well as permitted lodges and residences located on the Forest is consistent with current federal policy and Forest Plan direction.

The approach for developing the appropriate management response for wildland fire burning on the Forest that threatens individual structures or the wildland urban interface is the same for fire being managed for resource benefit or suppression objectives. Aggressive or intense management actions would occur in locations that have the highest probability of success in preventing damage or loss while ensuring the safety of the public and firefighters. These actions could occur near structures in close cooperation with the local jurisdiction or at some distance from structures where circumstances are favorable for stopping the advance of a fire toward structures.

There are some circumstances where wanted wildland fires could burn near structures. There are circumstances where appropriate management response options for protecting structures have a high probability of success while fire burning on adjacent lands is accomplishing resource benefits. Examples of where this might occur include areas where structures are defensible due to the location and/or condition of the surrounding fuel types and the expected fire behavior. These favorable circumstances may be a result of existing natural conditions or from fuel treatments near the structures.

b) Developed recreation sites

The full range of appropriate management response options is available to prevent loss or damage to developed recreation sites. Most of the developed sites are located in the Resource Dependent Management Response Zones. Whether a fire is an unwanted wildland fire or being managed for resource benefits, the criteria to be used in the selection of the appropriate management response option are the same. The criteria include firefighter and public safety, the financial and social values of the site, defensibility, and cost.

c) Lands suitable for timber production

The 1986 Forest Plan classified 86,000 acres as lands suitable for timber production, or approximately 3.5 percent of the Forest. The appropriate management response for an unwanted fire threatening suitable timber production lands would generally consist of initial attack to control and extinguish the fire as rapidly as possible. Assuming costs are commensurate with values and the probability of success is acceptable, a similar appropriate management response would continue for an extended attack⁷ situation if it occurs.

⁷ Extended attack is suppression activity for a wildfire that has not been contained or controlled by initial attack or contingency forces and for which more firefighting resources are arriving, en route, or being ordered by the initial attack incident commander (National Wildfire Coordinating Group 2007).

Development of strategies to manage a fire for resource benefits would consist of an assessment of what areas would benefit from fire and what areas should be protected from fire or subject to limited fire intensity. Lands suitable for timber production are considered high value assets and under most circumstances would not be allowed to burn unless it was determined there would be beneficial effects or no effects.

Examples where fire could be beneficial are a low intensity underburn in Douglas-fir that thins the understory or creates conditions favorable for regeneration. Another example would be overmature stands of timber that have been severely impacted by insects or disease and the trees have lost their value as forest products. Burning the stands could be the preferred treatment for treating the fuels and preparing the site for natural regeneration or planting.

There may be a few instances where lands suitable for timber production may be allowed to burn and commercial timber products destroyed or damaged while managing a fire as wildland fire use or as an unwanted wildland fire. For example, situations where it is infeasible to protect an isolated stand, or where the value of the timber does not warrant the cost or commitment of resources and a substantial resource benefit may be achieved.

d) Public water supply

The City of Lander obtains its public water supply from the Middle Fork Popo Agie River watershed. Within this larger watershed is the tributary drainage of Sawmill Creek. Wildfire in this tributary drainage is a concern to the city because of potential water treatment issues. Current vegetation and fuel conditions within the Sawmill Creek drainage are such that management of a wildland fire for resource benefits is not likely to occur until conditions improve.⁸ Unplanned wildland fires that start within the drainage, or threaten to burn into the drainage from adjacent lands, would receive an appropriate management response designed to limit the amount of acres burned. This would include rapid and aggressive initial attack as well as extended attack strategies and tactics that contain and control fires as quickly as possible.

e) Lodgepole Creek watershed

The Lodgepole Creek watershed has been identified as an area that is recovering from past wildfires. This watershed would receive an appropriate management response to prevent additional loss of vegetation to fire. As conditions recover in this watershed, wildland fire use would become an option. The fire management plan would be updated to reflect these changes.

f) Other resources

While there are circumstances in which wildland fire can help achieve Forest Plan goals and objectives, there are also situations where resources need to be protected from the impacts of fire. The situations that dictate the need for protection and type of response may vary during the fire season or change over

⁸ Alteration of fuel and vegetation conditions through the use mechanical or prescribed fire treatments could improve conditions to reduce the risk to water quality from unplanned wildland fire.

time. For example, if the amount of winter range burned in an area exceeds Forest Plan objectives, it would not be allowed to burn again until the vegetation recovers. The fire management plan is updated annually and would provide implementing strategies and appropriate management response options that meet the Forest Plan direction for all resources as well as accounting for changing ground conditions. During the decision phase of an incident, when strategies and appropriate management response options are being considered, the potential impacts to all resources would be assessed and would influence the selected strategies and response options.

g) Special areas

The proposed Sawtooth Peatbeds and the designated Swamp Lake Botanical Area have been identified as areas where fire would be detrimental to resource values. Unplanned wildland fires that start within the drainage, or threaten to burn into the area from adjacent lands, would receive an appropriate management response designed to limit the amount of acres burned.

E. Fire Management Unit Guidance

Guidance for individual fire management units is located in Appendix A.

- A1 - Clarks Fork
- A2 - North Fork
- A3 - South Fork
- A4 - Greybull
- A5 - Wind River
- A6 - Washakie

Section IV - Wildland Fire Management Program Components

This Fire Management Plan is composed of the following wildland fire management components that define the Forest's wildland fire program. Each of these components is addressed in detail as it relates to the wildland fire management program (described in the previous section).

A. General Implementation Procedures

Implementation of wildland fire management components is consistent with fire management capabilities and considers the current and predicted conditions affecting fire behavior. Preplanned decisions are based on historical fire behavior (PCHA and IIAA) and Forest Plan direction. The appropriate management response is determined through preplanned run-cards that efficiently aid in the Stage I decision process. The run-cards expedite the decision making process to determine whether to respond to an initial action and take suppression action, or whether the wildland fire ignition could be used for resource benefits.

The Fire Management Officer (FMO) shall initiate a Wildland Fire Implementation Plan (WFIP) for all wildland fires. Stage I: Initial Fire Assessment provides the decision framework for selecting the appropriate management response. Operational management decisions are described in the WFIP. Specific WFIP requirements are outlined in the Wildland Fire Use Implementation Procedures Reference Guide (FSM 5103, 5108, and 5132.32) (Wildland Fire Use Guide).

The Stage I: Initial Fire Assessment includes the Fire Situation and the Decision Criteria Checklist. The Shoshone National Forest Incident Management Log and run-cards incorporate the requirements of Stage I. It documents the current and predicted situation, documents all appropriate administrative information, and aids managers by providing decision criteria to make the initial decision whether to manage the fire for resource benefits or to take suppression action.

The initial response to unplanned ignitions in the Wildland Fire Use Management Response Zone assumes the fire will be managed for resource benefit unless determined to human caused or directed otherwise by the responsible line officer. All fires being managed for resource benefits will follow the requirements for completing WFIP Stages I, II, and III as outlined in the Wildland Fire Use Implementation Procedures Guide. The approving line officer may choose to complete later stages of the WFIP even though the Planning Need Assessment may not indicate the need at the present time. The initial response in the Resource Dependent Management Response Zone assumes the fire will be managed for suppression objectives unless directed otherwise by the responsible line officer.

B. Wildland Fire Suppression

Shoshone National Forest fuel types are predominantly short-needle conifer trees usually associated with fire behavior fuel models 10 and 8, low rate of spread, and moderate to high resistance to control. Fire behavior can range from long duration smoldering fires to running crown fires supported by long range spotting. The large fires since 2003 that predominantly made crown fire runs were driven by insect and disease mortality that was recent enough to still have dead or dying needles in the crown. Most fires remain small with slow ground spread and single tree torching. Transition from low fire behavior to high and extreme fire behavior has been identified using thresholds from NFDRS outputs. The thresholds and major events are displayed on pocket cards (Appendix H).

1. Preparedness Actions

- a) Fire Prevention, Community Education, Community Risk Assessment, and Other Community Assistance Activities (Firewise)

Community assistance is in conjunction with the Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Indian Affairs (BIA), and Wyoming State Forest Service through the state National Fire Plan working team. The team assists communities with requests to support local fire departments, fuel reduction projects, and small wood business opportunities. Assistance includes funding, professional consulting, and implementation.

Education and prevention programs are focused at the zone level. Zone FMOs are the primary contact for fire education with assistance from the Supervisor's Office. The fire prevention program's focus is on escaped campfires. Sixty-two percent of the human caused fires are attributed to escaped campfires or warming fires in dispersed camp locations, mostly associated with hunting camps in FMU 4 and 5. Backcountry and wilderness rangers are the primary contacts and carry prevention messages to the campers. When burning conditions become a concern, the first element of the fire restriction plan addresses the dispersed campfires by restricting their use. Formal fire prevention programs are presented in conjunction with fire education programs in school classrooms, booths at community events, and articles in local newspapers. Fire prevention teams are incorporated into daily fire activities when conditions warrant full restrictions.

Community education involves fire prevention, fire ecology, and protecting homes with emphases on the natural role of fire the Greater Yellowstone ecosystem.

- b) Annual Prevention Program

The prevention program was developed using Risk Assessment and Mitigation Strategies (RAMS) software. The focus is to target opportunities to reduce escaped campfires in undeveloped sites. The Regional Office Prevention Specialist (shared position with BLM) is assisting the Forest with development of a strategy. The previous strategy of education and contacts with backcountry users has not been successful. The number of escaped campfires has not changed with implementation of our current prevention plan strategy. The escaped fires are not usually associated with regularly used dispersed campsites, but random sites away from main trails.

c) Special Orders and Closures

The Wyoming Interagency Fire Restriction Plan (Appendix L) provides direction and guidelines for initiating and implementing fire restrictions. The Supervisor's Office will coordinate with interagency partners as the plan dictates. The Zone FMOs and District Rangers will coordinate news releases.

d) Industrial Operations and Fire Precautions

Fire plans are required for industrial operations. The project inspector or contracting officer representative (COR) requests the plans from the operator; fire management reviews the plans for agency compliance. When fire restrictions are enacted, the language in the closure supersedes the industrial fire operation plan. The project inspector or COR oversees implementation of the plan. Currently, no plans are active.

Fire precautions are implemented annually with the inspection of special use structures. Passing the inspections is a condition for the special use permit's being valid. Inspections are conducted through self-inspections, or by district recreation staff.

2. Annual Fire Training Activities

a) Qualifications and Training

Wildland fire and prescribed fire qualification direction can be found in Fire and Aviation Management Qualifications Handbook – FSH 5109.17. Included in this direction is the establishment of a Forest Fire Qualification Review Committee that has oversight of the certification of individual qualifications and forest-wide fire training program. Appendix D contains the operating plan for the Forest Fire Qualifications Review Committee.

An Incident Qualification and Certification System (IQCS) data base administrator in the Cody Interagency Dispatch Center maintains the records for Forest permanent and seasonal employees. A summary of individual qualifications can be found in Chapter 60 of Cody Interagency Dispatch Center – Incident Mobilization Guide.

Qualifying in each wildland or prescribed fire position requires a task book be issued at the local unit by the Zone FMO or Forest Training Officer. The Forest Fire Qualification Review Committee will manage agency certification of training and experience. Direction for maintaining currency is found in FSH 5109.17. A resource order or performance evaluation is adequate documentation for proof of assignment.

Annually, all employees who are engaged in fire suppression activities have the opportunity to meet with fire management to discuss current and future qualification and training needs. Once needs are agreed to, training, nominations are generated and/or task books issued. Annual refresher training is conducted several times by each zone and once by the Supervisor's Office.

b) **Qualifications and Need Assessment**

During an active fire season, approximately 70% of Shoshone National Forest non-fire employees participated on fires in some capacity. In 2008, all permanent and most seasonal Forest employees will be red carded.

c) **Fire Season Readiness**

Annually in May or June, preparedness reviews will be conducted using the current Fire Preparedness Review Guide. All firefighters, zone fire leadership, Forest FMO/AFMO, and the District Ranger should attend the review. The review focuses on individual firefighter, equipment, and fire support facilities. Findings from the review will be presented to the unit FMO within 24 hours of the onsite visit. The Forest FMO/AFMO, District Ranger, and one member from another unit should be the minimum group conducting the review.

d) **Season Start and Stop Criteria with Typical Dates**

June 1 to September 30 is the typical fire season. Seasonal fire crews are employed from June 1 through September 30 (122 days). Crew leaders are employed longer to address pre- and post- fire season preparation activities. Large fires have occurred all months of the established season but typically are anticipated in August and September.

e) **Administrative Unit or District-Level Fire Cache Considerations, Including Appropriate Stocking Levels and Management**

Each zone maintains a suppression cache plus appropriate items to support fire/fuels projects. Caches are inspected annually during preparedness reviews for readiness and dated material. Stocking or replacement needs should be ordered directly from GSA, unless it is an emergency. Fort Washakie manages a Type III cache van for use by CDC cooperators. Each Cooperator maintains local cache(s) to support local Initial Attack, fuels and prescribed burn projects.

3. Detection

Aerial and ground patrols are the current detection methods, in conjunction with public reports. No fixed detection sites such as fire lookouts are currently established on the Forest. Detection patrols are determined by lightning and human risk plus planning level.

Detection Method	PL I	PL II	PL III	PL IV	PL V
Air Patrol	Option	Option	High Lightning Risk	High Human & Lightning Risk	High Human & Lightning Risk
Ground Patrol	Reported Fire	High Human & Lightning Risk	High Human & Lightning Risk	Daily	Daily

C. Fire Weather and Fire Danger

CDC provides daily forecasts and watch/warnings to field personnel and unit offices. National Weather Service (NWS) forecasts and updates are produced with direction

provided in the NWS – Riverton annual operating plan. CDC also disseminates fire danger forecasts. Both weather forecasts and fire danger are available on the CDC web page. Fire danger signs are managed at the zone level.

Daily weather forecasts will be broadcast once a day in the afternoon, over Forest net frequencies. CDC will broadcast the weather twice per day (morning and afternoon) to personnel on active fires. CDC will contact each ongoing incident to affirm the weather forecast has been received. Standard operating procedures for zone fire crews will be to read the weather daily during the fire season at the unit's morning briefing. Spot weather forecasts are requested through CDC by the incident or project. Highlights of the spot weather forecast will be broadcast to the incident/project over the radio. Any special updates to general forecasts and spot forecasts will be relayed to each incident/project within ½ hour of CDC's receiving the forecast amendment.

Red Flag Watches/Warnings are issued by the NWS when a combination of very high to extreme fire danger and/or high winds combine to create potential fire conditions that could be life threatening and resource damaging and very difficult to suppress. The National Weather Service through CDC will distribute the warning. On these days, a special effort will be made to prevent, detect, and suppress wildfires. Within the Fire Management Plans, the Specific Preparedness Guides will plan actions for these alerts. The action necessary to accomplish this may or may not be within the scope of the Specific Preparedness Guides.

Seven NFDRS remote automated weather stations are used by the Forest. The Forest is responsible for the management of three of the stations. Crandall and Eagle stations are maintained by north zone fire. The Elkhorn station is maintained by south zone fire. CDC manages data input and station startup for all USFS stations. All stations are currently running year round.

Figure 5. NFDRS Remote Automated Weather Station.

Station Number	Station Name Owner	Fuel Model	Location	NESDIS #	Elevation
480213	Crandall USFS	G – H Timber	44° 51.01" 109° 36.41"	32353130	6,612 ft.
480214	Eagle USFS	G – H Timber	44° 29.08" 109° 53.47"	326fa142	7,500 ft.
481410	Elkhorn USFS	G – H Timber	43° 40.46" 109° 36.39"	323a114e	8,085 ft.
481411	Wind River BIA	H – L Timber	42° 35.24" 109° 42.00"	52117480	9,120 ft.
480212	Rattlesnake BLM	H – L Timber	42° 35.24" 109° 14.14"	52117480	6,800 ft.
481903	Anderson Ridge BLM	T Sagebrush/ Grass	42° 14.14 108° 56.27	32787280	8,120 ft.
480804	Grass Creek BLM	T Sagebrush/ Grass	43° 56.0 108° 51.14	3264C70C	7,100 ft.

⁹Figure 6. Station thresholds

Station	ERC		KDBI		1,000 hr Fuel Moisture	
	90th %	97th %	90th %	97th %	90th %	97th %
Crandall	67	76	492	600	9	8
Eagle	75	81	300	333	9	8
Elkhorn	80	86	540	555	9	8
Wind River	68	75	251	270	7	7

Mid-winter snow pack and long-term temperature and precipitation forecast indicate that the Shoshone may experience an average fire season. As of February 7, snow pack for the Forest ranged between 90-110% of average for the winter. The February 2008 Seasonal Wildfire Potential Outlook for northwest Wyoming was for below average for March through June. Near term (60-90 days) is for near normal temperatures above normal precipitation. The outlook for the summer months (June-August) is for above normal temperatures and below normal precipitation. Drought conditions have improved over the past six months from a rating of extreme to severe and are expected to continue to improve. Precipitation that occurs in May and June is a key indicator of the potential summer fire season. Below average precipitation during month of June has been characteristic of several active fire seasons in past years on the Forest.

D. Policy and Forest Service Manual and Handbook Direction

FSM 5100 provides specific direction for roles and responsibilities of line officers and fire management activities. In addition to agency manual direction, Appendix B provides additional direction to satisfy the 30-mile abatement plan and Cramer action Items.

The Regional Forester has delegated authority to Forest Supervisors to approve varying complexity levels of prescribed burns and wildland fires. Figure 7 shows that the Forest has delegated approval authority to qualified District Rangers (or actings) while retaining line authority for the most complex activities with the Forest Supervisor (or acting). FSM 5130 requires that in order to be delegated authority for prescribed burns and wildland fire management activities that District Rangers or actings have the requisite knowledge and experience. Delegation of authorities for line officers and actings are updated annually and located in Appendix C.

Figure 7. Delegated authority for wildland fire suppression, wildland fire use and prescribed fire on the Shoshone National Forest

Wildland Fire Suppression – Certification of WFSA	Type II to Type IV Incidents (< \$2.0M)		Type II and Type I Incidents (\$2.0 M – 10.0M)	
	District Ranger*		Forest Supervisor	
Wildland Fire Use	Stage I	Stage II	Stage III	Periodic Assessment
	District Ranger*	District Ranger*	Forest Supervisor	District Ranger
Prescribed Fire	Complex		Forest Supervisor Authority	
	Moderate		District Ranger Authority	
	Low		District Ranger Authority	

* Forest Supervisor authority when wildland fire is expected to cross District or Forest boundaries.

E. Actions the Forest will Initiate at the Five Forest Preparedness Levels

Figure 8 addresses the Forest preparedness levels description and Figure 9 addresses the specific actions by preparedness level.

Specific actions have been assigned for each level. When the preparedness level has been declared, individuals will be notified of the positions that need to be filled. For each fire level, there are specific actions that need to be taken by various individuals.

The Zone FMO, Forest FMO, and/or fire duty officer will recognize the preparedness levels and implement the actions required of this plan. The CDC will inform Rocky Mountain Coordination Center (RMCC) and Greater Yellowstone Area (GYA) cooperators of existing or expected conditions and actions taken or anticipated.

The Forest Supervisor will approve the implementation of action in Levels IV and V. The Forest Supervisor or the Forest FMO will inform the Regional Office of existing or expected conditions and actions taken or anticipated.

Preparedness levels are dictated by burning conditions, fire activity, and resource availability. Resource availability is the area of most concern. For more information regarding preparedness levels, reference the National Mobilization Guide, chapter 20, pages 43 - 49, section 26.3, and the RMCC Mob Guide Chapter 20.

The predicted fire danger is determined by current and predicted weather data from the Elkhorn remote automated weather stations (RAWS) for the Wind River Ranger District, Crandall RAWS for the Clarks Fork Ranger District, Eagle RAWS for the Wapiti Ranger District, and Wind River RAWS for the Washakie Ranger District.

1. Risk Factors

a) **Lightning Risk (LR-3, LR-4, LR-5)**

The revised matrix for lightning risk determination found on page 23 RM-84, National Fire Danger Rating System, will be used for lightning risk staffing. Increased staffing for lightning risk should be implemented only for a high lightning activity in the higher fire danger classes.

- b) Person-Caused Risk (PCR)
Increased staffing may be necessary for major holidays or peak days of hunting or fishing seasons.
- c) Haines Index
The Haines Index is a rating for potential large fire growth or erratic fire behavior. On Haines Index days of six high, the next higher Fire Danger Class will be used.
- d) Predicting Fire Danger Levels
The Energy Release Component, as computed by the National Fire Danger Rating System from daily weather observations, is the indices recognized on the Shoshone to determine the actual fire danger for planning levels.

Red Flag Watches and Warnings are indicators of the potential of extreme fire behavior. Staffing and notification will be revised as appropriate.

Figure 8. Forest Preparedness level descriptions. The presence of five items in the table acknowledges the respective preparedness level.

Shoshone Parameters	Level I	Level II	Level III	Level IV	Level V
Annual Precip. Departures	+ to normal	-10% to -15%	-15% to -25%	-25% to -35%	-35% <
1000 Hr Fuel Moisture	+ 22%	21% - 17%	16% - 13%	12% - 9%	8% <
ERC- 4 Wx Stations	Normal	Normal	Above Normal	90th%	97th%
Palmer Drought Index	Above Normal	Near Normal	Mod Drought	Sev Drought	Ex Drought
A and B Fires	Present	Present	Present	Present	Present
Large Fires		Present	Present	Present	Present
Team Commitment	IMT 5 or 4	IMT 4 or 3	IMT 3 or 2	IMT 2 or 1	IMT 1&2
Resource Commitment	Zone	Forest	CDC Area	CDC/GYA	RMA
Weather Trend – 10 day Temp/Precipitation	Below Above	Normal Normal	Above Below	Above Much Below	Above None

Figure 9. Preparedness level action items

Action Items	Level 1	Level 2	Level 3	Level 4	Level 5
Forest Leadership – Forest FMO or AFMO	5 day	5 day	5-7 day	7 day	7 day
Zone Leadership – FMO or AFMO	5 day	5 day	7 day	7 day	7 day
Initial Attack Resources Regular Duty Hours	0800-1630	0800-1630 or 0900-1730	0900-1730	0900-1730	0900-1730
Redcarded Project Crews Response	Call When Needed	Call When Needed	8 Hour	2 Hour	1 Hour
Extended Hours and/or Additional Resources Activated do to Red Flag; Recent or Forecasted Lighting or Increased Human Caused Fire risk		Consider	Yes	Yes	Yes
Evaluate Needs and Submit Request for Severity Res.			Yes	Yes	Yes
Type 3 IC on Standby (In addition to FDO)			0-1	0-1	1
Casual Hire Employees Locally Critical (Availability)	Nationally	Nationally	Nationally	TBD by Forest Duty Officer	TBD by Forest Duty Officer
Forest Availability Report	Pay Period	Pay Period	Weekly	Daily	Daily
Line Officer Briefings	As Needed	As Needed	Weekly Daily if IMT	Daily	Daily
Industrial Operations ¹⁰ Inspections	Annual Inspection	Annual Inspection	Annual Inspection	Weekly	Weekly
Permitted Burning	Normal Prevention	Normal Prevention	Checked by Fire Mgt.	Discouraged	Cancelled
Fuel Permits			Consider Prevention Patrols	Increase Patrol in high use areas	Increase Patrol in high use areas
Special Use Permit ¹¹	Normal Prevention	Normal Prevention	Normal Prevention	Follow-up Inspection	Follow-up Inspection
Detection	Smoke Report	Smoke Report	Lightning	Lightning MC Risk H	Daily
Fire Restrictions	Follow Wyoming Interagency Fire Restriction Plan			Consider Partial	Consider Full
Prevention	Refer to RAMS prevention plan in this document				Prevention Team
Fire Information	Normal	Normal	Normal	Consider Info. Team	Information Team

¹⁰ Industrial Operations refer to activities associated with significant fire hazard

¹¹ Special Use Permits refer to activities associated with significant fire hazard.

Action Items	Level 1	Level 2	Level 3	Level 4	Level 5
GYA – Fire Management ¹²	Normal	Normal	Normal	FMAG	FMAG
Local MAC	Normal	Normal	Normal	Activate	Activate

e) Thresholds

Pocket cards describe thresholds (Appendix H) to watch out for; anytime ERCs exceed the 90th percentile, burning conditions usually exceed the capabilities of the firefighting resources. In multiple drought years, ERCs of lower value produce the same conditions in timber. The lower threshold is estimated at 80th percentile.

2. Staffing and Draw Down Levels

Daily staffing levels for Forest fire suppression resources have been established using adjective fire danger ratings. Figure 10 shows a range of staffing for when the Forest is funded at the Most Efficient Level (MEL) and figure 11 displays the resources funded MEL minus 40%. The daily staffing levels are in effect for the general fire season that typically runs from July 1 through September 30. Depending upon conditions, daily staffing levels may be initiated earlier and extended as needed. During extended periods of very high and extreme fire danger, additional resources may be added to the daily staffing levels to commensurate with current fire potential and activity on the Forest. Additional actions related to daily staffing levels are described in figure 9.

a) Draw Down Levels

Severity of burning conditions and current fire activity will determine suppression resources and fire management oversight needed on the Forest. Specific preparedness levels give direction as to availability and responsibilities of the Forest’s fire organization during specific burning conditions. Minimum draw down levels have been established and are the same as the staffing level at the MEL – 40% funding level displayed in figure 11. Minimum draw down levels during the normal fire season will be maintained on the Forest by replacing committed resources and absent positions (leadership and duty officers) or by retaining the resources/individuals on the Forest.

Casual Hire Employees (ADs) are signed up for the purposes of supporting local wildfire activities and in some cases out of area incidents. Those signed up prior to any specific incident and are deemed locally critical (e.g. no local agency qualified or trainees available) may choose to make themselves available for out of area assignments during Planning Levels 1-3. At Forest Preparedness Levels 4 and 5, the Forest Duty Officer will determine the availability of ADs for out of area assignments.

¹² Greater Yellowstone preparedness plan identifies actions to be taken by the Fire Management Advisory Group under the guidelines of the GYA Fire Management Advisory Group. The plan can be found in the Greater Yellowstone Area Interagency Fire Management Planning and Coordination Guide, Appendix F

Figure 10. Daily Staffing at MEL (FFPC = 37.0 ch/hr) Funding Level

Resource	Shoshone NF Staffing at MEL			
	Staffing Level/Adjective Fire Danger Rating			
	1 Low	2 Moderate	3 High	4 VH - EXT
Forest				
Agency Administrator				
Forest Leadership (FMO or AFMO)		0-1*	1	1
Forest Duty Officer (ICT3 and TFLD)	1	0-1*	0-1	1
North Zone				
Zone Leadership (FMO or AFMO)		0-1*	1	1
North Zone Duty Officer (ICT4)	1	0-1*	1	1
Initial Attack Resources	2 – Engines	2 – Engines 1 – IA Module	3 – Engines 2 – IA Module	3 – Engines 2 – IA Module
South Zone				
Zone Leadership (FMO or AFMO)		0-1*	1	1
South Zone Duty Officer (ICT4)	1	0-1*	1	1
Initial Attack Resources	1 Engine 1- IA Module	1 – Engine 1 – IA Module	2 – Engine 1- IA Module	2 – Engine 1- IA Module

*Either a duty officer or FMO/AFMO will be assigned for the day.

Figure 11. Daily Staffing at MEL - 40% (FFPC = 23.0ch/hr) Funding and Minimum Draw Down

Resource	Shoshone NF Staffing at MEL Minus 40% & Minimum Draw Down Level			
	Staffing Level/Adjective Fire Danger Rating			
	1 Low	2 Moderate	3 High	4 VH - EXT
Forest				
Forest Leadership (FMO or AFMO)		0-1*	1	1
Forest Duty Officer (ICT3 and TFLD)	1	0-1*	0-1	1
North Zone				
Zone Leadership (FMO or AFMO)		0-1*	1	1
North Zone Duty Officer (ICT4)	1	0-1*	0-1	1
Initial Attack Resources	1 – Engines	1 – Engines 1 – IA Module	2 – Engines 1 – IA Module	2 – Engines 1-2 – IA Module
South Zone				
Zone Leadership (FMO or AFMO)		0-1*	1	1
South Zone Duty Officer (ICT4)	1	0-1*	0-1	1
Initial Attack Resources	1- IA Module	1 - Engine	1 – Engine 1- IA Module	1 – Engine 1-2 – IA Module

*Either a duty officer or FMO/AFMO will be assigned for the day.

b) Agency Administrator Staffing

In addition to minimum staffing levels for fire leadership and initial attack resources, staffing levels for the availability of certified agency administrators is displayed in Figure 12. Staffing levels include the entire Forest.

Figure 12. Daily Staffing Level for Agency Administrators

Certification Level	Shoshone NF Staffing Levels for Agency Administrators			
	Staffing Level/Adjective Fire Danger Rating			
	1 Low	2 Moderate	3 High	4 VH - EXT
Journey – T2	0-1	1-2	2	2-3
Journey – T1	0	0-1	1	1-2

F. Aviation Management

Aviation management direction is provided through FSH 5700 and a Forest Aviation Plan. Oversight of the plan direction and development is performed by the Forest Aviation Officer, which is a collateral responsibility of the Cody Interagency Dispatch Center Assistant Manager. The Forest AFMO serves as the first alternate and Forest Fire Staff Officer serves as the second alternate Aviation Officer for the Forest. For specific aviation direction, see the Forest Aviation Plan.

G. Initial Attack

All wildland fires will be reported to Cody Dispatch Center. CDC will activate the appropriate resources based upon the preplanned dispatch direction outlined for each fire management unit. Once CDC has dispatched resource, the information will be relayed to the appropriate Zone FMO (or assistant/duty officer). The dispatcher will brief the Forest FMO or duty officer of any significant fire activity.

Job codes and resource requests for each incident will be requested through CDC.

All initial attack resources will comply with Fire and Aviation Management Qualification Handbook 5109.17 before engaging in fire suppression activities. The safety of firefighters will not be compromised in any way. Firefighters will adhere to the Ten Standard Fire Orders, LCES, and mitigate the 18 Situations that Shout Watch-Out before engaging into suppression activities.

When the initial attack Incident Commander (IC) arrives, the IC will relay initial attack size-up information found in the Incident Organizer. The IC will determine the appropriate management level using the Incident Complexity Analysis located in the Incident Organizer and relay the information to CDC. If the complexity is commensurate with the onsite IC redcard qualifications, the IC will continue to manage the incident. If the incident management recommendation is more complex, the IC will request the next level of management, disengage, and focus on actions that promote public and firefighter safety (Zone FMOs retain the authority to select or change initial attack ICs at their discretion). Following assessment, interagency dispatch actions will support incident requests by the initial attack IC and Zone FMO.

Before engaging in fire suppression activity, the IC and fireline personnel will assess risk by following the Risk Management Process in the Incident Organizer. Each firefighting resource will be briefed face-to-face before engaging in suppression activities. The briefing will include all of the items listed in the Incident Organizer Briefing Checklist (inside back cover page).

All fire will receive an appropriate management response. Ignitions within that are wildland fire use candidates will be evaluated using procedures outlined in the Wildland Fire Use Implementation Reference Guide. Resource benefit and protection objectives for the appropriate FMU will be reviewed as well. The initial declaration for fire use must be made by the appropriate line officer within eight hours of initial size-up. See Wildland Fire Use of this section for operational direction of the respective wilderness plan. At minimum, for all wilderness and roadless areas, MIST will be the preferred suppression tactic.

1. Information Used to Set Initial Attack Priorities and Appropriate Initial Attack Response

Initial attack priorities are guided by resource values at risk and the natural role of fire. Fire starts in high resource value areas (structures, improvements, private land, and high commodity value) take priority over lower resource value (based on net value change) areas. Lowest priority is where the management area direction is to allow fire to burn in its natural role with little suppression influence.

2. Response Times

Engine and hand crew response times are identified as one- or four-hour(s), with expectations varying by FMU and adjective fire danger rating. Support of the Ft. Washakie Helicopter is expected to be a 25-minute getaway time plus travel at a fire danger rating of high and above.

3. Restrictions and Special Concerns

The general philosophy for all FMUs is to use MIST when it is effective and safety is not compromised. Structure fire suppression, HAZMAT response, and vehicle fires fall within the jurisdiction of county emergency organizations. Agency suppression crews can assist with structure protection but do not have the equipment or skill to take the lead or enter burning structures.

Mechanical equipment use outside of wilderness requires no special approval from a line officer with the exception of ground based heavy equipment such as dozers. The Forest Supervisor or acting approves mechanical equipment use in wilderness. Use of dozers in wilderness requires the approval of the Regional Forester.

Additional resource protection measures are described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines in Appendix H.

4. Work-rest Guidelines

Work-rest guidelines will follow national, Regional, and Forest direction as directed in the Interagency Incident Business Management Handbook and supplemented by the Shoshone National Forest Work/Rest Guidelines. Monitoring compliance with work-rest guidelines will occur on all incidents.

Ongoing assessments by IC and Safety Officer will be monitored and documented on all incidents that exceed 16 hours from initial attack. At a minimum, documentation will include:

- Description of actions taken to monitor work-rest cycles
- Every incident where work-rest cycle limitation guidelines were exceeded

- Action taken to ensure compliance
- Documentation in unit log or on Incident Management Log
- At initial briefing, determine work start time for each resource and report times to IC.

5. Social and Political Concerns

The local AD hiring authority, reserved to the Forest FMO/AFMO, should be used to fill fire and support positions when local agency resources are depleted. The AD hiring plan is available in the Cody Interagency Dispatch Supply and Service Plan. In addition, local purchase of items to support incidents should be given priority.

6. Evacuation

If a determination is made by the incident commander to evacuate an area in or around an incident, the following steps will be taken:

- IC will notify CDC
- Dispatch will notify the appropriate sheriff's department.
- CDC will notify and brief the Forest FMO and any cooperators.
- The Forest FMO will notify and brief the following: Forest Supervisor, District Rangers, and the Regional Office.
- The county sheriff's office will notify the appropriate county evacuation personnel.
- The Forest FMO or fire staff officer will assign a liaison officer and other personnel as needed to assist the county with the evacuation plans and procedures.

The Shoshone National Forest has wildland fire protection responsibilities in the following counties: Park, Hot Springs, and Fremont. The county sheriffs for the respective counties will be kept apprised of large fires within their jurisdictions or fires threatening jurisdictional boundaries.

County sheriff have the lead role in evacuations. The Forest Service will assist as requested in the evacuation plans and procedures.

7. Accident

For general information and response, refer to the Shoshone National Forest Search and Rescue Plan. In the event of serious injury, fatality, or aircraft accident, the search and rescue plan addresses notification procedures, responsibilities, and types of resources.

8. Wildland Fire Entrapment

Timely reporting of entrapments or fatalities is necessary for rapid dissemination of accurate information. The incident commander will notify CDC immediately of known entrapments. CDC will contact the Forest FMO (or acting), who will continue notification to the Forest Supervisor and Rocky Mountain Region. Within 24 hours of the initial notification report, Wildland Fire Entrapment Report (NFES 0869) PMS 405-1 will be submitted to the Regional Office.

9. Critical Incident Stress Debriefing

A critical incident stress debriefing will be offered to individuals associated with an entrapment or severe fire related accident. The District Ranger or Forest Supervisor will initiate the request and assign an individual to coordinate the ordering and arrangements for an appropriate critical incident stress debriefing team. The debriefing will focus on Critical Incident Stress Management (CISM).

10. Reports

The IC, before leaving the incident, will complete the Forest Incident Management Organizer (Appendix H). The report should be delivered to the Zone FMO within two days after the fire is declared out. The ZFMO will complete the 5100-29 Individual Report and send a signed copy to the Forest AFMO who will then forward it to CDC. All incident documentation will be kept together in a file for each incident; each zone will house the original documents.

CDC will enter fire records into KCFAST and maintain fire records for the Forest. A copy of each fire report will be kept at the center.

11. Local Unit Dispatch Protocol

At times of extensive Initial Attack Cody Dispatch becomes overwhelmed either with activity on the Shoshone or other cooperators. The Shoshone has developed a strategy to assume day-to-day radio operation during these critical times. The process identifies trigger points for a Zone or the Forest to assume the dispatch role, the hand-off back to CDC and the responsibilities of all involved.

- When CDC has > 5 concurrent Initial Attacks, Extended Attack, and/or large fires.
- When radio traffic at CDC prohibits communication within Zone/Forest – based upon user perception.
- When activity at CDC is complex – based upon CDC needs.
- When communication problems develop at CDC (telecom down, etc.)

Local units may assume daily fire operations communications and response to initial “smoke” reports. Resources that normally status themselves through the day with CDC would do so with the unit. Upon verification that a “smoke” is a fire CDC will be notified and provided the list of resources on scene/in route and then will proceed with IA dispatching.

All initial attack, extended attack, flight following and emergency traffic still is the responsibility of Cody Dispatch.

Process CDC to Zone/Forest:

- When the situation has been identified, the Zone FMO/AFMO will discuss the situation with the Forest FMO/AFMO and local line officer and all will concur on the decision.
- All unnecessary radio traffic will be eliminated.
- Identify local operators available for assignment.
- Dispatch will be contacted and a dialog developed to ensure that all agree.
- Once operators have been identified and a schedule set, a transition time will be determined and all field units will be notified prior to the hand-off. The

transition will NOT occur during the critical burn period. Morning or evening is preferred.

- CDC will provide copies of any active radio logs to the local unit.
- Upon hand-off, standard radio log procedures will be followed.

When the role shifts to the Zone/Forest, the Zone FMO will identify the primary person to monitor radio traffic. Their priority is to listen for and respond to radio traffic. The Zone/Forest Duty Officer will set the schedule for daily fire operations communications when being managed at the local unit level.

Process Zone/Forest to CDC:

- CDC will notify the unit when their capacity to resume operations of radio traffic can be resumed.
- All field units will be notified of the transition.
- The transition will occur at the end of the day/shift.
- The host unit will provide copies of any active radio logs, resource orders etc. to CDC.

H. Extended Attack and Large Fire Suppression

1. Determine Extended Attack Needs

Uncontained fires that extend past the first burning period are considered extended attack and will require a new strategy (WFSA). Extended attack fires will have the appropriate level of management directly overseeing incident ground operations. An uncontained fire extending beyond the second burning period is considered an escaped fire; if the incident exceeds the suppression capabilities assigned to the incident or exceeds the management level assigned to the incident a new strategy is required (WFSA).

The assigned IC will inform CDC when a fire has escaped or is anticipated to escape as soon as it becomes obvious. The management of the escaped incident will focus on public and firefighter safety, and evacuation if necessary (see Evacuation in this section). A WFSA is required for all escaped wildland fires.

If an incident escapes initial attack action, firefighting resources will disengage suppression action, regroup, and focus on public and firefighter safety (see initial action plan).

2. Implementation Plan Requirements – WFSA Development

A fire exceeding extended attack requires that a WFSA be developed. The WFSA will evaluate suppression responses to the escaped wildland fire with consideration given to the Federal Fire & Aviation Operations Action Plan. WFSA software is the recommended format to develop the WFSA. The software has been loaded on all ZFMO, AFMO, FFMO, AFFMO, and some engine supervisors' computers.

When the agency initiates a WFSA, the line officer from the host ranger district will assemble a development team and prepare the WFSA.

The line officer is responsible for completion of the WFSA. The WFSA includes the following:

- Identification of evaluation criteria
- Determining protection objectives
- Development of suppression alternatives including a least suppression cost alternative
- Analysis of suppression alternatives
- Approval documentation and notification
- Monitoring and evaluation

Each alternative should be displayed on an accompanying map, clearly showing the point of failure. Approval and certification of the WFSA may only be done by line officers that have the requisite experience and training as outlined in FSM 5130 and have been delegated the authority by the Forest Supervisor (see Appendix C for delegation letters). The WFSA requires line officer review and/or revision before each operational period until the appropriate suppression response is successful.

3. Complexity Decision Process for Incident Management Transition

a) Transition

Once it is recognized the incident will be transitioning to another level of management, the IC on scene will continue to provide incident oversight for public and firefighter safety until the incident is formally transferred to the incoming IC. The incident organization will remain in place to support the IC until the transition is complete. The transition procedures will follow the guidelines for Transfer of Command outlined in Standards for Fire and Aviation Operations –, chapter 11, page 11. The transition procedures will be implemented when incidents are transitioning to a more complex management level and to a less complex management level.

The criteria used to determine the need to transition will be a complexity analysis, one for Type IV-III wildland fires, and one for Type II-I wildland fires. Both can be found in the Forest Incident Organizer (Appendix H) and in the Red Book.

Following are characteristics that will assist line officers in determining incident complexity. The guidelines are presented in order of ascending complexity, describe the fire suppression response and the fire organization appropriate to the particular situation, and are consistent with established fire management direction (FSM 5130) and Standards for Fire & Aviation Operations. The Type V Incident is the lowest level of complexity, and Type I is the highest level. All fires have an incident commander – a single individual responsible to the agency administrator for all incident command level functions and incident activities.

Type V Incident Commander

- Resources may vary from two to six firefighters.
- The incident is generally contained within the first burning period or a few hours.
- A written action plan is not required.
- All incoming resources will receive an operational briefing, documented.

Type IV Incident (Initial Attack)

- Command and General Staff positions are not activated.
- Resources vary from single module to several resources, Task Force, or Strike Team.
- The incident is usually limited to one operational period in the control phase.
- The agency administrator will have briefings, and ensure that WFSA and delegation of authority are updated
- No written action plan is required
- All incoming resources will receive an operational briefing, documented.
- Agency Administrator—objectives and priorities

Type III Incident (Extended Attack)

- Some or all of the Command and General Staff positions may be activated, usually at the Division/Group Supervisor and Unit Leader level.
- Resources may vary from several single resources to several Task Forces/Strike Teams.
- The incident may be divided into divisions, but usually does not meet the Division/Group Supervisor complexity for span of control.
- The incident may involve multiple operational periods before control, which requires a written action plan.
- Staging areas and a base may be used.
- Incident may be an escaped fire being managed until a Type I or II IC assumes command.

Type II Incident

- Most or all of the Command and General Staff positions are filled. A Type II Incident requires a Type II Incident Commander and General Staff functioning as a team.
- Base Camp(s) is (are) established.
- The incident extends into multiple operational periods.
- A written action plan is required.
- Many of the functional units are needed and staffed.
- Operations personnel normally do not exceed 200 per operational shift, and total incident personnel do not exceed 500 (numbers are guidelines only).
- Divisions usually are established to facilitate work assignments in different locations. A qualified Division/Group Supervisor is not required on divisions established for reasons other than span of control or other complexity factors.

Type I Incident

- Meets all the Type II criteria plus the following:
- All Command and General Staff positions are activated.
- Operations personnel often exceed 500 per operational shift and total personnel usually exceed 1,000 (numbers are guidelines only).

- Divisions are usually established that require personnel qualified as Division/Group Supervisors.
- The establishment of branches may be required.

4. Delegation of Authority for the Incident Commander

Qualified District Rangers are delegated authority as agency administrators for Type II (<\$2.0 M est. cost) through V Incidents. Type II (> \$2.0M est. cost) and Type I incidents are reserved for Forest Supervisor or deputy line authority.

The line officer is responsible for preparation and transition of an incident to an Incident Management Team. The line officer schedules the agency administrators briefing. A briefing should clearly define objectives and further provide any pertinent information that would be useful to the team in meeting those objectives. A briefing format example can be found in Appendix H.

A delegation of authority will be prepared for the incident commander by the line officer that certified the WFSA.

A written delegation of authority is developed from the WFSA and provides specific direction and authority for the IMT to manage the incident. The line officer delegates management of the incident to the incident commander, but retains ultimate responsibility for control of the fire. It establishes the line of command and communicates incident objectives. The delegation will identify agency representative(s) that have authority to act on the administrators behalf. The delegation may also establish liaisons, resource advisors and other key contacts. A sample delegation of authority can be found in Appendix H.

A standard delegation of authority from line officers to Type 3, 4 and 5 Incident Commanders assigned to incidents on the Forest has been prepared. The delegation of authority is distributed to and reviewed annually with local Forest resources. A copy of the delegation is located in Appendix C.

5. Exceeding Existing WFIP – Selecting a New Strategy

Wildland fires that exceed the existing Wildland Fire Implementation Plan objectives will require a new strategy. Objectives may include incident management level, maximum manageable area, or resource objectives. An example of the initial attack objective is to contain the fire within the first burning period and extended attack is to contain the fire within the second burning period. Both would require a new strategy if the objective were not satisfied.

Criteria used to determine if a strategy is valid for prescribed fire and wildland fire used for resource benefit will be specific to the project. In some cases, a firm MMA is appropriate, in others a single spot easily contained across the MMA is appropriate.

6. Minimum Impact Suppression Tactics Requirements

Minimum impact suppression tactics (MIST) are the preferred tactic on all Shoshone National Forest lands. Direction is to insure firefighter and public safety first and then manage a wildland fire with the least impact to the land. Actual fire conditions and good judgment will dictate the actions taken. Consider what is necessary to halt fire spread and contain it within the designated perimeter, while safely managing the

incident. The unit resource advisor will provide specific incident MIST tactics for an incident. Basic MIST implementation guidelines can be found in Standards for Fire and Aviation Operations (Appendix T).

7. Other Fire Suppression Considerations

Grizzly bears inhabit most of the land within the Forest boundary. Forest policy requires that employees working in known grizzly bear inhabited areas will be trained in the use of bear spray and have it in their possession, and will practice proper food storage.

I. Wildland Fire Use

Wildland fire use for resource benefit refers to the management of naturally ignited wildland fires to accomplish specific, pre-stated resource management objectives in predefined geographic areas as defined in the Forest Plan and outlined in this Fire Management Plan. The 1986 Forest Plan was amended in June of 2008. The amendment (Forest Plan Amendment 2008-01) allows unplanned ignitions to manage for resource benefits Forest-wide.

Wildland fire used for resource benefit offers the fullest advantage and flexibility of our wildland fire policy. The opportunity to use fire to benefit the natural process is encouraged provided it is done within the framework of current policy and approved implementation plans.

1. Factors Affecting Decision Criteria for Wildland Fire Use

All natural wildland fires have the potential to be managed for resource benefits unless otherwise determined. The Zone FMO, AFMO or duty officer will evaluate the initial decision criteria and recommend to the respective line officer the appropriate management response. In the event the fire has the potential to cross administrative boundaries, the host line officer will notify the appropriate line officer of the adjacent agency.

The Shoshone has identified portions of the Forest (Wildland Fire Use Management Response Zone) where large wildfire use events have a high probability of being authorized (see FMU Maps). This does not preclude large wildland fire use event(s) in other areas.

Figure 12. Risk criteria when using the Wildland Fire Relative Risk Rating chart.

	Low			Mod			High		
Fire Danger	ERC ¹³	FM	KBDI	ERC	FM	KBDI	ERC	FM	KBDI
Crandall	18	18	141	36	15	282	60	11	470
Eagle	20	18	90	40	15	180	68	11	315
Elkhorn	21	16	141	41	12	282	69	8	470
Wind River	21	16	72	43	12	143	71	8	238
Time of Year	September 15			August 10			July 15		
Fuel Model 10	½ mile break			¼ mile break			Continuous		
Fuel Model 8	¼ mile break			Scattered breaks			Continuous		

2. Implementation Process

Concurrent with the appropriate line officer decision to manage a fire for resource benefit (Fire Use Decision Chart and Stage I), an analysis team will be activated to begin preparation of the WFIP- Stage II or III if the Planning Needs Assessment indicates the need or if the line officer makes a determination that completion of additional stages are warranted. The analysis team will normally include the Zone FMO, wilderness manager, and Fire Use Manager or Prescribed Fire Manager. Other specialists may be included as appropriate. Between the initial decision and the completion of each stage of the WFIP, the approving officer will revalidate the initial decision on a to be determined periodic basis. The WFIP will be completed within the time frame discussed in the status key (below).

The Wildland Fire Implementation Plan consists of three distinct stages (Stage I-III). Each stage requires a periodic assessment to be completed. The 2005 Wildland Fire Use Implementation Procedures Reference Guide (Wildland Fire Use Guide) describes the process.

The following figure presents a summary the WFIP stages, requirement status, and completion timeframes

Requirement status key for Figure 13:

- 1 = mandatory
- 2 = mandatory, but can be preplanned
- 3 = optional
- 4 = completed if Stage II or Periodic Fire Assessment, Part 2 indicate need.
- 5 = completed if fire exceeds management capabilities
- 6 = completed if Periodic Fire Assessment, Part 1 indicates need

¹³ Energy Release Component (ERC) is used as one of the initial evaluation criteria. ERC is calculated daily as part of the National Fire Danger Rating System (NFDRS), and is related to the available energy (BTU) per unit area (square foot) within the flaming front at the head of a fire. ERC is considered a “composite” fuel moisture index based on both living and dead fuel moistures. Actual ERC is compared to the weather station seasonal tables for NFDRS model G. The ERC is compared to the historic low, high, and mean for that specific day. A best estimate of the high ERC for the remaining fire season will be predicted based on long-term forecasts and climatological data

Figure 13. Summary of wildland fire implementation stages and required actions

WFIP Stage	Planning and Assessment Element	Requirement Status			Maximum completion timeframe
		Initial Attack	Other suppression-oriented appropriate management responses	Fire use actions	
WFIP Stage I: Initial Fire Assessment	Fire Situation	1	1	1	As soon as possible
	Decision Criteria Checklist (Initial GO-NO-GO Decision)	3	1	1	8 hours after first fire detection
WFIP Stage II: Short-term Implementation Actions	Short-Term Fire Behavior Predictions and Risk Assessment	3	1	1	48 hours after Stage I periodic assessment requires
	Short-term Implementation Actions	2	1	1	
	Complexity Analysis	3	1	1	
	Stage III Need Assessment Chart	NA	1	1	
WFIP Stage III: Long-Term Implementation Actions	MMA Definitioni	3	4	4	Within 7 days after Stage II or Periodic Fire Assessment indicates need
	Fire Behavior Predictions	3	4	4	
	Long-Term Risk Assessment	3	4	4	
	Long-term Implementation Actions	3	4	4	
Periodic Fire Assessment	Part 1: Revalidation	NA	1	1	On assigned frequency
	Part 2: Stage III Need Assessment Chart	NA	1	1	
WFSA		5	5	6	Before implementing new strategy

3. Wildland Fire Use Implementation Procedures Reference Guide

FSM 5140 incorporates the Wildland Fire Use Implementation Procedures Reference Guide as policy. The Guide contains definitions of terms; descriptions of content and steps for development of stages I, II, III and the periodic fire assessment; and the format for a wildland fire implementation plan (WFIP). The Wildland Fire Use Guide is located in Appendix N.

4. Maximum Manageable Area Development

The Wildland Fire Use Guide requires that a Maximum Manageable Area (MMA) be defined for all fires in Stage III of a WFIP.

The MMA should consider the following issues.

- Wilderness and other resource issues, including trail systems, outfitter camps
- Smoke impacts
- Ability to manage the fire if it reaches the MMA
- MMA boundaries should be located along topographic and vegetation boundaries that maximize defensible boundary

- Expected and severe fire behavior predictions will be compared to the MMA. If the projections exceed the MMA, a higher risk fire is anticipated.
- Holding actions must be identified to keep the fire within the MMA

WFIP format and risk assessment can be found in Appendix N.

5. Cultural Resources

On all appropriate management response strategies, cultural resources will be protected if feasible with priority given to sites listed on the National Register of Historic Places. Second priority will be significant sites that may be eligible for the National Register of Historic Places. Maps that include the location of known cultural resource sites and unknown areas determined to be “high risk and likely to contain sites” will be made available to fire managers and line officers prior to the fire season and updated as new information becomes available Appendix H). When evaluating fires for wildland fire use, a heritage resource specialist will be consulted and provide input regarding the protection of known sites and the potential heritage resources at risk in areas that have not been inventoried. Class I surveys will be conducted on all wildland fire use events. The heritage resource specialist will make recommendations for conducting Class II surveys for not yet inventoried areas as well for known sites that have not been inventoried. The line officer will be responsible for making a determination as to whether or not to proceed with a wildland fire use event; measures to be implemented to protect sites; any attempts to conduct Class II surveys ahead of the fire. Procedures to conduct the Class II surveys will be developed before implementation to ensure safety.

6. Preplanned Implementation Procedures

The Shoshone National Forest FMO will meet each spring and fall with the GYA – Fire Coordinating Group to review fire management planning status and operational procedures. Discussion topics include preseason conditions, fire season potential, operational reviews, situation and status reporting, mobilization and preparedness plans, review of cooperative agreements, review of the Coordinating Guide for currency, data base coordination, education, and media coordination.

In order to enhance coordinated management of large and complex fire use incidents within the GYA, a Fire Management Advisory Group (FMAG) will be established at the spring meeting. The three-person group will be activated at the discretion of any agency administrator and/or when the GYA is in preparedness Level III or higher (see the Greater Yellowstone Area Interagency Fire Management Planning and Coordination Guide, Appendix S).

Annually, before June 1, the FMAG will review wildland fire use decision criteria, season potential, and WFIP process.

7. Impacts of Plan Implementation

Implementation of the wildland fire use plans may have an impact on backcountry users and the airshed. Trail and area closures may be established limiting the use by recreationists and permitted outfitters.

Educating the media and forest users on natural disturbances and the role of fire before the event may lessen the impact. A fire management community education emphasis is the natural role of fire in the Greater Yellowstone ecosystem.

Impacts to an airshed are dictated by the quantity of fuel and type of fuel burning and air dispersion qualities. Limiting burned acres, targeting non-timber fuel types, or selecting opportunities when fuel moisture is high will lessen potential impacts; however, the Forest Plan objective for allowing the natural succession in vegetation is compromised. To satisfy ambient air quality standards, close attention must be paid to the number and potential size of suppression and fire use fires west of a candidate fire use fire. If Wyoming DEQ restricts further degradation of the airshed, the appropriate management response in wilderness is suppression.

8. Required Personnel, Responsibilities, Required Skills and Qualifications

A fire use project may be implemented only with trained and qualified personnel (FSM 5145.1). No less than the organization described in the approved WFIP may be used to implement the project. To adequately develop a WFIP and implement the project, the following key positions must be available.

- Certified agency administrator for wildland fire use
- Zone FMO or AFMO
- Forest FMO or AFMO
- Appropriate Fire Use Manager
- Wilderness Resource Advisor
- Heritage Resource Advisor
- Adequate implementation resources

Appropriate Line Officer is the Forest Supervisor. The Forest Supervisor will delegate wildland fire use approval authority to qualified District Rangers and forest staff officers (Appendix C) who demonstrate the skills and judgment to approve wildland fire use. Qualified acting District Rangers may also approve the WFIP, but they also must be delegated approval authority by the Forest Supervisor.

Courses to obtain these skills include Local Fire Management for Line Officers and an introductory course in wilderness fire management. Participation in an annual dry run of a fire use event is also suggested.

In the event the Maximum Management Area crosses a district or forest boundary, the Forest Supervisor will retain approval authority, or may choose to delegate to one District Ranger.

Zone Fire Management Officer, AZFMO or Duty Officer is responsible for all day-to-day fire management activities within the zone. The FMO will coordinate with the Fire Use Manager. The Zone FMO may serve concurrently as the Fire Use Manager as long as FSH 5109.17 is satisfied and the complexity of the fires and other duties do not exceed the capabilities of the FMO. The ability of the Zone FMO to oversee a single or multiple fires being managed for fire use needs to be evaluated daily for span of control issues and complexity. Additional qualified fire use managers or incident commanders will be ordered and assigned when needed.

Forest Fire Management Officer or assistant is responsible for daily oversight and coordination of the Forest Fire Use program. He or she makes recommendations to line officers and coordinates with the Region and cooperators. The Forest FMO may serve concurrently as the Fire Use Manager as long as FSH 5109.17 is satisfied and

the complexity of the fires and other duties do not exceed the capabilities of the FMO. The ability of the Forest FMO to oversee a single or multiple fires being managed for fire use needs to be evaluated daily for span of control issues and complexity. Additional qualified fire use managers or incident commanders will be ordered and assigned when needed.

The Fire Use Manager with direction from the line officer (line officers if more than one agency is involved) will be responsible for overall management of the fire. The Fire Use Manager will be responsible for coordinating monitoring of the fire, including supervision of the observation crew, determination of monitoring intensity, and development of revised fire and smoke behavior projections. The Fire Use Manager will be committed to the fire until another qualified Fire Use Manager relieves him/her. The Fire Use Manager will meet all of the qualifications required in FSM 5145.31 and FSH 5109.17. The Fire Use Manager may concurrently be the Zone or Forest FMO. The Fire Use Manager's responsibilities will be delegated in writing by the appropriate line officer.

Wilderness Resource Advisor provides specific direction on wilderness and backcountry resource management to the WFIP and fire use team. The advisor has knowledge of current wilderness activities, location of camps, and a network of contacts.

9. Public Information

Public and internal Forest Service understanding and support for wildland fire use is vital to the success of the fire program. Examples of actions that may be used to help keep Forest employees, permittees and the general public informed and educated regarding wildland fire management activities on the Forest are shown in figure 14.

Figure 14. Planned annual involvement

Actions	RESPONSIBILITY
Develop presentation for all employees directly or indirectly involved in fire and wildland fire use management activities.	Zone FMO
Integrate wildland fire use into annual training and seasonal orientation.	Zone wilderness manager
Provide reduced copies of fire plan to appropriate field personnel.	All districts
Post fire Information posters at trailheads.	All districts
Distribute GYA wildland fire use brochure	All districts
Contact outfitters, special use permittees, other local interests, and explain Fire Management Plan and address their concerns.	All districts
Update regional and national interests	All districts, Fire Management Officer, Supervisor's Office
Conduct public education sessions to community groups.	All districts, Fire Management Officer, Public Information Officer

Actions	RESPONSIBILITY
Prepare routine news articles on wildland fire management	All districts, Fire Management Officer, Public Affairs Officer

A key contact list of agency, interagency, state, tribal, and congressional delegates can be found in Forest Fire Information Handbook.

10. Records

The Prescribed Fire or Fire Use Manager and district personnel will jointly evaluate each wildland fire use when it is declared out. A summary of each fire will be prepared, to include the following information:

- Documentation of all management decisions pertinent to the fire, including WFIP, daily validations reports, and WFSA if applicable
- Monitoring reports
- Periodic fire assessments
- Summary of estimated costs
- Permanent maps
- Photographs and digital photographs

All WFIPs will include post-fire monitoring to verify that the objectives of the burn have been met. The appropriate line officer may choose to schedule an interdisciplinary team visit as part of the post-fire monitoring.

J. Management Ignitions in Wilderness

Management ignitions will be considered where historic exclusion of fire has altered the natural fire regime and consequent fire dependent vegetation and fuel loading.

An interdisciplinary team of resource specialists will evaluate and recommend the proposed use of management ignited fire. Interested publics will also be involved appropriately in the evaluation process.

A National Environmental Policy Act (NEPA) document, a section 7 consultation with the U.S. Fish and Wildlife Service, and a Shoshone prescribed burn plan will be completed and reviewed by the team for each project. Management ignited fire will not be used to achieve wilderness fire objectives where lightning caused fires can achieve them (FSM 2324.22). Use of mechanical equipment should be considered as a last resort and will require a minimum tool analysis and approval by the Regional Forester.

a) Public Safety

The concept of public safety in wilderness and other backcountry is covered in the Forest-wide resource management prescriptions, standards, and guidelines of the Forest Plan: "Personal risk and challenge associated with adverse weather conditions, isolation, physical hazards, and lack of rapid communication and travel are appropriate features of the wilderness setting, and it is neither practical nor desirable to eliminate those risks."

With that criterion in mind, the following standards will be utilized to inform forest users of safety concerns and minimize the chances of endangering the personal

safety of users in the wilderness area because of the prescribed fire management program:

- Trailheads and trails near the fire area will be signed, advising wilderness users of fire status, hazards and risks, as well as suggested alternative routes of travel. Backcountry rangers and work crews will be updated routinely so they can alert visitors.
- Forest users will be advised of the hazards and risks in the fire area, as well as safe routes near the fire area.
- If a fire is along a major access route, personnel will be assigned to contact and advise visitors as they enter the fire vicinity.
- The line officer may request official closure of trails and campsites in the fire vicinity if he/she feels that the fire presents significant threat to life and visitor safety.
- In the event fire conditions deteriorate significantly, and there is imminent danger to known visitors, the line officer may elect to use a helicopter to warn users and make evacuations of those users incapable of responding rapidly.
- Use of contract packers for logistical support to fire operations is not permitted until approved by the Forest Supervisor. Agency packers that are used for logistical fire support 1) must be currently qualified as a FFT2 or 2) have attended the annual refresher and be accompanied by a currently qualified FFT2. Packers that are retrieving personnel and equipment from fires that have been declared out do not need to be accompanied by a qualified FFT2.

K. Prescribed Fire

1. Planning and Documentation

Most of the fuel treatment acres on the Forest are accomplished using prescribed fire. The historical annual treatment is about 4,000 acres, but has increased to 6,000+ acres in recent years and is expected to range from 6,000 to 8,000 acres over the next few years. The treatments generally focus on projects that emphasize urban interface protection, forest health, ecosystem restoration and maintenance, and fuel reduction. An integrated process is used to determine project priority and appropriate acres to be treated. The process is spatial in nature using GIS layers developed by each discipline. The fuel layer is generated using the following criteria to determine priority:

High	1 - WUI and FM 10 (with exposure to prevailing winds) 2 - WUI and FM 8 (with exposure to prevailing winds)
Moderate	3 - FM 10 (no WUI) 4 - FM 8 (no WUI) 5 - all other FMs (with exposure to prevailing winds)
Low	6 - No WUI and all other FM

Projects having collaborative partners are elevated in priority. Wyoming cooperators are developing a collaborative statewide process to prioritize project funding. The project is titled Wyoming Fire Plan and is currently in draft.

2. Annual Activities

Projects planned for implementation and planning for fiscal year 2008 are about 6,000 acres and 15,000 acres respectively. The forest staff group publishes a planned program of work, which can be found in Appendix Q.

Individual ranger districts have the responsibility to set priorities for funded prescribed burn projects. During periods where multiple burns are scheduled, the Forest FMO, working in conjunction with the Zone FMOs, will set priorities for burn projects. This responsibility may also be delegated to a Forest Prescribed Fire Manager. Setting of priorities may be required to allocate resources such as helicopters and to mitigate cumulative smoke impacts.

3. Long-term Fuel Treatment Direction

The fuel treatment focus is to reduce the threat of wildland fires negatively impacting structures and private property, and provide multiple benefits while allowing for natural succession to proceed without human intervention. Because a large portion of the Forest is wilderness with approved fire management plans in place, fuels projects will consider the benefit to fire use opportunities.

4. Prescribed Fire Qualifications

All prescribed fire personnel will meet National Wildfire Coordinating Group and Forest Service qualifications (FSH 5109.17) including physical fitness requirements. Prescribed fire qualifications will be reviewed during the spring redcard meeting. Prescribed fire experience, training, and performance will be documented and entered into the IQCS database annually. A master record of qualifications can be found at CDC.

Figure 15. The organization necessary to implement the annual prescribed fire program.

Position	Mnemonic	Needed	Qualified	Trainee
Prescribed Fire Manager	RXM 1 or 2	3	3	0
Fire Use Manager	FUM 1 or 2	4	3	2
Prescribed Fire Burn Boss 1	RXB1	3	2	2
Prescribed Fire Burn Boss 2	RXB2	6	8	2
Prescribed Fire Burn Boss 3	RXB3	8	6	4
Fire Behavior Analyst	FBAN	2	2	1
Long Term Analyst	LTAN	2	2	0
FIRB with experience as an Ignition Specialist 1	FIRB	2	4	1
FIRB with experience as Ignition Specialist 2	FIRB	4	8	4
Fire Effects Monitor	FEMO	6	2	2
Single Resource Boss	ENGB/CREW	10	8	2
Helitorch Mixmaster	HTMM	2	1	1
Helicopter Manager	HEMG	3	1	2

Position	Mnemonic	Needed	Qualified	Trainee
Helitorch Manager	HTMG	1	0	0
Plastic Sphere Dispenser Operator	PLDO	2	2	1

5. Monitoring of Weather Fire Behavior and Fire Effects

The Shoshone National Forest Fire Effects Monitoring Guide describes recommended minimum requirements for monitoring before, during, and after a prescribed fire. The guide provides guidelines for setting project objectives, developing a monitoring plan, and choosing sample methods. The following figure displays the minimum fire effects monitoring.

Figure 16. Established fire effects monitoring methods for the Shoshone National Forest.

Monitoring Variable	Method	Appendix or Other Source
INVENTORY		
Project Area Map	GIS or Hand drawn	FS Corporate Database or Other Map Source
Project Area Vegetation Maps Showing Community or Habitat Types	GIS, Aerial Photography, Inventory Data	FS Corporate Database, Veg. Specialist
PRE-BURN		
Fuel Moisture	(Norum and Miller 1984) Method for Drying Oven or Computrac	A
Photo point Installation	R4 Range Handbook or FMH	31 - 38
Pre-Burn Plot Installation (see immediate and long-term fire effects sections, below)	(see immediate and long-term fire effects sections, below)	
DURING BURN		
Weather Observations: Temperature RH Wind Cloud Cover	On-Site Fire Monitor	Fireline Handbook; Field Observer Reference p. 19
Fire Behavior: Rate of Spread Flame Length Flame Height Flame Zone depth	On-Site Fire Monitor	
Smoke: Plume Height Color Drift Direction	On-Site Fire Monitor	
Fuel Moistures (for later comparison) Live	(Norum and Miller 1984) Method for Drying Oven or Computrac	A

Monitoring Variable	Method	Appendix or Other Source
Dead		
IMMEDIATE POST-BURN (First Order Fire Effects)		
Perimeter Map	GPS, Satellite Imagery, Aerial Photography	
Burn Severity	Hand drawn with Severity Categories (based on Ryan and Noste 1983) or Satellite Imagery (based on Key and Benson 1999)	10, 2
Treatment Acreage Breakdown	GIS	
Woody Fuels and Duff Reduction	Brown 1982 Method	13 - 22
Shrub Mortality	Shrub Transect or "Belt" (Nested Frequency, FMH, or Macroplot)	48 - 57
Tree Mortality	FMH, Macroplot, or Circular Aspen Plots (in prep.)	2, 60
Scorch Height	FMH	2
LONG-TERM (Second Order Fire Effects)		
Random Plot Location	GIS Applications, Grid Map Method, or XY Coordinates Method	23
Ground Cover	Point Samples	46, 59
Species Diversity	FMH Veg. Line, Line-Point Intercept	2, 59
Herbaceous Vegetation Frequency	Nested Frequency	24 - 47
Herbaceous Cover or Composition	Line intercept, Line-point intercept (Macroplot), FMH Veg. Line	48 - 57, 59, 2

6. Critique of Prescribed Fire Projects

The Forest's annual Monitoring and Evaluation Report and monitoring trip provide the avenues to critique the hazardous fuels program. The Monitoring Report addresses specific items identified in the Forest Plan standards and guidelines to be monitored. Hazardous fuels program monitoring includes accomplished acres, record keeping, escapes, fire effects, and treatment effectiveness.

Monitoring trips rotate biannually between the two zones on the Forest. The field trip reviews include a number of program components for the selected disciplines; a fuels project has historically been reviewed every three years.

Individual prescribed burn implementation is critiqued after each operational period. The critique is verbal and focuses on implementing the elements of the prescribed burn plan. Recommended changes are discussed and if appropriate, incorporated into the next operational period or prescribed burn.

If an escape fire occurs because of a prescribed fire, the Forest Supervisor will make a determination as to whether or not to initiate a Forest or Regional Office review of the incident. If a Forest level review is indicated, the Forest Supervisor will establish a review team. For a Regional Office level review of an escaped prescribed burn, the process is initiated at the Forest level by placing a request for an off-Forest review team to the regional hazardous fuels program leader. The request will recommend a minimum team configuration of a RXB1, FBAN, and a team leader. The review team will report to the Forest Supervisor.

7. Reporting and Documentation

Accomplishments are reported bi-weekly to the National Fuels Module User Manual at the Forest level. Zone fire program managers submit acres accomplished by project unit and type of treatment to the Supervisor's Office monthly or soon after the burn. Actual acres are reported so partial unit treatment is tracked.

Escaped prescribed fires are reported through the Forest's line officer organization to the regional fire program director. It is the responsibility of the zone and Forest FMOs to keep line officers informed with accurate information.

8. Historic Fuel Treatment Map

Planned and accomplished fuel treatment projects can be found in Appendix Q and in the corporate files at J:/fsfiles/gis/forest/sh/fire.

9. Trust Fund (KV & BD) Planning Procedures

a) Brush Disposal Planning

1) Zone fire managers, wildlife and recreation personnel will work with zone timber managers in sale design and unit layout; recommending contract specifications; evaluating and identifying appropriate trust fund work and make recommendations as how to accomplish the work. BD planning and work only includes activity fuels, or fuel created by the purchasers operation. All projects must comply with NEPA and the signed DN. The trust fund work will be based on the silvicultural prescription for project that will include fuels treatment objectives and related activities.

2) Once the activity fuels treatment and preparation work needs have been determined, the zone fire manager will develop a draft brush disposal plan (see BD/KV planning worksheet – Appendix R) for each activity that determines the cost of force account operations. This brush disposal plan will be reviewed with the zone timber manager and District Ranger. The District Ranger will make the decision as to whether adjustments to the plan are needed before approving it and submitting it for inclusion into the sale appraisal package. If needed the plan may also be submitted for review to the forest timber management officer for a cost comparison to having the work done by the purchaser. Based on this review and consultation with the District Ranger, the contract will be prepared to meet the agreed upon activity fuel treatment needs and method of accomplishment (Contractor or Force Account). If force account crews are determined to be the best and most efficient, and cost effective method to conduct the fuels treatment for each unit (or group of units), the work plan with the project cost by activity will be submitted to the zone timber manager for inclusion into the BD plan for the sale appraisal package.

3) The Forest fire management organization will be responsible for preparing the project work plan for BD funds using the Project Work Plan System. Zone fire managers will submit a request (Appendix R - BD/KV request spreadsheet) for authorized expenditures of BD funds to the Forest FMO. The Forest TMO and FMO will meet and agree upon request and priorities submitted by the zone fire and timber personnel. The request will include the sale names, unit #s, activities, and project costs. These dollars requested for each activity will be the same as the collections associated with the BD plan prepared for the sale, which will be located in the 2430 Timber file for each zone. The dollars requested will consist of the calculated project cost that included 5% for inflation. Forest, RO and WO overhead assessments will be added at the supervisor's office. The Forest timber staff will submit the request to the forest budget officer. The forest timber sale officer in conjunction with the forest fire management officer will monitor BD trust fund balances and collections and complete all reporting requirements thru FACTS and other automated programs.

Changes in the fuels treatment work developed in the BD plan that deviate from the activities prescribed in the silvicultural prescription will be coordinated between fire and timber managers. Silvicultural prescriptions and fuels treatment activities will be modified to reflect the agreed upon changes.

4) The Forest fire management officer will be responsible for the entering the BD program of work into the deliverable database and reporting of the BD MAR accomplishments.

b) KV Planning

1) Zone fire managers will work and coordinate with zone timber managers, wildlife biologists, recreation specialists, lands personnel, etc. in sale design and unit layout by; recommending contract specifications; evaluating and recommending appropriate contract and force account work; and recommending applicable treatments methods in a manner commensurate with the vegetation and resource management objectives from NEPA documents and silvicultural/vegetation prescriptions for the project, and the DN.

2) Once the fuels or vegetation treatment method and appropriate workforce has been determined, the zone fire manager will develop a work proposal (see BD/KV planning worksheet in Appendix R) for each activity, if fire/fuels force account crew is determined to be the most cost efficient and effective method of treating fuel/vegetation. The work plan with the project cost by activity will be submitted to the zone timber manager for inclusion into the KV plan for the sale appraisal package. The zone fire managers will provide the necessary information to assist the timber managers in preparing the appraisal, to allow for contract fuels treatments work and other contract work related to the rx fire operations associated with the sale.

3) Zone fire managers, timber managers, wildlife, recreations and other affected zone resource managers will evaluate projects to determine if KV collections are the appropriate funding source to accomplish the fuels or vegetation treatment work. These dollars requested (Appendix R -BD/KV request spreadsheet) for each activity will be the same as the collections associated with the KV plan

prepared for the sale which will be located in the 2430 Timber file for each zone. The dollars requested will consist of the calculated project cost plus adjustments for inflation. Forest, RO and WO overhead assessments will be added at the supervisor's office. If the fuels treatment or rx burn project is not considered an essential KV project, funding may or may not be available for the project thru the use of KV fund (Note: only projects essential to regenerate the treatment areas will be funded initially). The specialists group made up of fire, timber, silviculture, wildlife, recreation, etc should work together to recommend where the project belongs on the priority list for non-essential KV funding expenditures. The line officer in conjunction will make decisions on expenditures and priorities with the program manager(s).

Changes in the fuels treatment work developed in the KV plan that deviate from the activities prescribed in the silvicultural/vegetation prescription will be coordinated between fire and timber managers. Silvicultural prescriptions and fuels treatment activities will be modified to reflect the agreed upon changes.

4) The forest timber management organization will be responsible for preparing the project work plan for KV funds using Project Work Plan System. When requested (quarterly) zone fire managers will submit a request for authorized expenditures of KV funds. The request will include the sale names, unit #s, activities, and project costs. These dollars requested for each activity will be the same as the collections associated with the KV plan prepared for the sale. The Forest FMO will forward the KV authorization request to the forest timber staff officer for approval. The forest timber staff will submit the request to the next level. The forest timber management officer will be responsible for monitoring KV trust fund balances and collections, thru FACTS.

5) The Forest timber management officer will be responsible for the entering the KV program of work in the Forest's deliverable database and reporting of the KV MAR accomplishments.

c) Silvicultural and Vegetation Prescriptions

1) The expectation locally, regionally and nationally is that all burn plans, fuel treatments and other vegetation manipulation actions are supported by a silvicultural or vegetation prescription. This is needed to utilize all the expertise we have on the forest to do the correct job of vegetative management on the ground, and also to provide the best information possible to the line officer in making the implementation decision on prescribed fire projects on the forest. This process will provide the necessary protection to the decision maker in cases where we are challenged in appeal or litigation.

2) Silvicultural and vegetation prescriptions will be derived from the purpose and need, resource objectives, and selected alternative identified in the NEPA document. The resource objectives in these prescriptions will be comprehensive and clearly defined for inclusion into the burn plan and for developing BD and KV plans.

3) Consistent with FSM 2470, all forested lands will have a silvicultural prescription prepared and approved by a certified silviculturalist for projects that

involve mechanical or prescribed fire treatments to meet resource management objectives.

4) A certified silviculturalist will evaluate a project and make a determination as to which areas meet the criteria for being considered a forest or woodland requiring a silvicultural prescription. For all non-forested lands, a vegetation prescription (see Appendix O for vegetation prescription example) will be prepared by a qualified resource specialist (designated by the District Ranger) that has the experience and knowledge associated with the vegetation type to be treated as well as the application of prescribed fire or other fuels treatment methods. If not assigned as to prepare the document, a certified silviculturalist and a fire manager will review all vegetation prescriptions as well as other resource specialists assigned by the District Ranger.

10. Prescribed Fire Burn Plan Development and Implementation Procedures

a) Approval of Prescribed Burn Plans

The Forest Supervisor is responsible for approving prescribed fire burn plans at all levels of complexity and reserves the right to delegate approval authority to District Rangers for simple and intermediate levels of complexity.

Authority to approve prescribed fire burn plans may be delegated to the District Ranger, but only if the District Ranger has the requisite fire management knowledge, experience and staff available (FSM 5140.42). District Rangers wishing prescribed fire plan approval authority will document their experience and training and specify the requested level of approval authority. Appendix C contains the delegations of authorities for line officers and acting to approve burn plans.

Line officers will use an agency administrator go/no-go form to document approval for ignition at the time of implementation. The approval to implement may be granted on daily basis or for an extended period to be specified on the form at the time of approval.

Any changes to the approved burn plan must be authorized by the approving line officer or qualified acting, except for immediate revision to the firing pattern and containment forces that must be made to respond to an unforeseen situation.

A technical review will be conducted by the Forest or Assistant Forest FMO for all burn plans. Prior to signature, the reviewer will visit the burn site as part of the technical review for all prescribed fires that are adjacent to private property or within ½ mile of private property. The review process is documented on Prescribed Fire Plan Technical Review, Appendix O.

Burn plan packages submitted for technical review and approval by the line officer will include the following:

- Completed burn plan containing all required elements
- Complexity analysis
- Silvicultural or vegetative prescription
- Supporting National Environmental Policy Act documents

The burn project folder with all the supporting documentation will be submitted for the technical review. An electronic copy of the burn plan and complexity analysis will be filed in /fsoffice/projects/fire/burn plan tech review/project name/project files.

b) Burn Plans

The burn plan template from the Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide (Prescribed Fire Guide) will be used for management ignited prescribed burns. All burn plans will contain the minimum elements described in the Prescribed Fire Guide. A single burn plan may be used for more than one unit, provided individual maps and specific needs are included for each unit. An example of a burn plan template is located in Appendix O.

c) Complexity Analysis

Prescribed fires are classified as low, moderate, and high in complexity. Burn complexity will be determined by using Prescribed Fire Complexity Rating System Guide – PMS 242 (Jan. 2002) (NFES 2474). Complexity is based on three complexity factors: risk, potential consequences, and technical difficulty. The factor rating is determined by assigning a low, moderate, or high value to 14 elements; the three ratings then define the prescribed fire complexity. The final complexity analysis involves a summary complexity determination, rationale for selection, and a line officer signature. For instruction and definitions, refer to the complete publication. A complexity analysis is included with the standard Shoshone burn plan. An example of the analysis can be found in Appendix O.

d) Prescribed Burn Scheduling and Coordination

During project planning and burn plan preparation, coordinate with adjacent private property owners to discuss issues regarding access and cooperation needed for burn implementation. Coordination will include evaluating values at risk, access, fuels, hazards, and potential contingency measures.

An electronic copy of the completed burn plan will be filed in a folder in the j drive under /fsoffice/projects/fire/burn plans approved/project name/project files/. The project name folder will include a copy of the burn plan with maps and the complexity analysis. Personnel at CDC will have access to folder.

e) Mop-up Standards

Burn plans will include apt descriptions of the scope and duration of mop up operations and a range in size of the required mop up force. Development of mop up objectives will include consideration of the location of the burn, fuel types, and values at risk, i.e., the greater the values at risk, the more rapidly mop up objectives are to be accomplished. Burn plans will include direction for mop up resources and equipment commensurate with the values at risk, fuel type, and specified time frames.

Adequacy of mop up is the responsibility of the prescribed fire burn boss and mop up will continue on a daily basis until the burn boss places the fire in patrol status or declares the fire out.

Mop up standards will also include direction on the need for and appropriate use of infrared and/or heat-sensing equipment for identification of hot spots. The use of the equipment will be based on the values at risk, fuel type, and specified time frames.

A minimum of one spot weather forecast per day will be obtained by 0900 and continue each day until mop up objectives have been met and the burn has been placed in patrol status or declared out.

f) Provision for Test fires

Test fires must be used within the prescription standards set by the approved prescribed burn plan. Adequate holding forces will be present during test fires. The burn boss will document fire behavior and weather.

g) Assignment of Burn Bosses and Prescribed Fire Managers

The appropriate line officer will assign a qualified burn boss to each prescribed project. Depending on the size and complexity of the burn units, a qualified burn boss may be assigned more than one unit. The assigned burn boss is responsible for the burn project until he/she declares the burn out. When multiple burn projects are scheduled or active, the District Ranger will be responsible for assigning a prescribed fire manager.

The Forest FMO (or acting) will serve as the prescribed fire manager responsible for providing oversight of the implementation and coordination of all prescribed fire activities on the Forest. This includes setting priorities, allocating resources, monitoring burn implementation, and ensuring operations are conducted in a safe manner and in compliance with the burn plan and established policy, standards and guidelines.

h) Additional Resources

The burn boss may request resources through CDC. The burn boss should notify dispatch of any resources that he/she plans to commit from the zone to the prescribed burn.

All off-Forest resources will be ordered through the CDC utilizing a resource order form.

Air resources are ordered through CDC on the helicopter request form. CDC will flight follow the air resource to the project then hand flight following over to the project if requested. Out of area and air resources will be released back to CDC.

i) Dispatch Operations

CDC will be staffed during ignition of all Type 1 and Type 2 prescribed burns. The burn boss for Type 3 projects has the discretion whether CDC is staffed during ignition. CDC staff will remain at the dispatch center until the burn boss releases them.

j) Spot Weather Forecasts

Spot weather forecasts will be obtained for all Type 1 and Type 2 projects. The request may be placed on Riverton's Spot Request webpage or with using the standard spot weather forecast form. CDC has the option of faxing or

broadcasting the weather forecast to the burn boss at the burn bosses discretion. Spot forecasts should be requested as early as possible during busy burning periods.

Ignition will not begin until the burn boss has reviewed the spot forecast. In addition to the required spot weather forecast prior to ignition, contact will be made with the National Weather Service at the end of the burn day in order to validate the next day's forecast.

Fire managers will be proactive in their communications with weather forecasters. This includes communicating from the burn site the observed conditions that may be different from what was forecasted, discussing weather trends and long-term outlooks with forecasters, and requesting updates in weather forecasts. Ensure that the number of site-specific weather observations to be submitted for spot forecast are sufficient to provide the weather forecasters with enough information to produce an accurate product.

All prescribed fires adjacent to private property or within ½ mile of private property will use portable RAWs (remote area weather stations).

k) Contingency

Contingency plans will be developed for ignition, mop up, and patrol phases of a prescribed burn. Resources identified in contingency planning must be available at the time of ignition. Contingency plans will include identified trigger points and actions that mitigate the threat and potential for escape.

l) Exceeding Existing Prescribed Fire Burn Plan

Direction on when a prescribed fire is declared a wildfire is provided in FSM 5140 and the Prescribed Fire Reference Guide. Once a prescribed fire is declared a wildland fire, the appropriate suppression response will be implemented and preparation of a WFSA will occur in accordance with agency policy.

m) Resources Assigned to Prescribed Fires

Resources that are assigned to prescribed fires are generally not available for other assignments (such as initial attack) during firing and holding operations. If a resource is to be released from a prescribed fire prior to completion of the prescribed fire operations, the following procedures by the burn boss will be followed.

A determination by the burn boss that the upon release of the resource, there will be enough other resources remaining to meet the numbers and type required for the operation as described in the prescribed fire burn plan.

If the release of a resource will result in fewer forces that were described in the burn plan and the burn boss determines that operations can continue in a safe and effective manner, then an amendment to the burn plan may be appropriate. Amendments to the burn plan will require approval from the line officer or qualified acting. This approval may be verbal, but will need to be followed by written documentation.

If a determination is made that the requesting incident is a higher priority and release of the resource results in an insufficient number of resources to continue

with the operation, the burn boss will terminate the firing operations as soon as possible while giving full consideration to public and firefighter safety.

L. Air Quality and Smoke Management

Wildland fire management activities will meet federal and state air quality requirements. The North Absaroka, Washakie, and Fitzpatrick Wildernesses are classified as Class I airsheds. The remainder of the Forest is classified as Class II. Smoke from prescribed fires will be monitored and impacts mitigated as needed.

The State of Wyoming, Department of Environmental Quality, Division of Air Quality (WDEQ/AQD) is the state agency responsible for establishing and monitoring air quality. The state standards for air quality meet or exceed the federal air quality standards.

The 2004 Wyoming ambient standards for particulate matter less than 10 microns (PM-10) are:

- Less than 50 micrograms per cubic meter- annual arithmetical mean
- Less than 150 micrograms per cubic meter- 24-hour average concentration with not more than one exceed per year

WDEQ/AQD monitors PM 10 and TSP (Total Suspended Particulate) in Lander and PM 2.5 in Sheridan. Regional haze is monitored from one site on the Forest, the Forest air quality coordinator.

Management ignited fires (prescribed burns) require a smoke permit from WDEQ/AQD. The Zone FMOs are responsible for requesting smoke permits.

Department of Environmental Quality - State of Wyoming
Air Quality Division
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

The Wyoming Smoke Management Regulation is a “permit by rule” system. The permittee provides the required information on the forms provided (see Appendix P) based upon the amount of emissions generated on a daily basis and expected weather conditions.

The permit process also contains a monitoring element requiring plume monitoring and photo documentation within six weeks of completing the burn.

When planning and implementing smoke-generating projects, the 2001 Smoke Management Guide will be consulted to help prevent potential adverse smoke issues.

M. Non-Fire Fuel Applications

Although a large percentage of the Forest is comprised of wilderness and roadless areas, there are some opportunities to use mechanical treatments to accomplish fuels reduction work. Through the Regional Forester’s Accelerated Watershed Restoration Project initiative the Forest is in the process of planning and implementing several projects that involve timber harvesting and other mechanical treatments to accomplish

fuels reduction work. The Forest is currently experiencing an insect epidemic in which over 500,000 acres of forest have been attacked. The epidemic is expected to continue for the next few years with up to 800,000 acres being impacted. Priority areas for treatment have been identified and include areas surrounding wildland urban interface (intermix) areas and key watersheds. Approximately 25% of the Forest fuels treatment accomplishment will be accomplished using mechanical treatments.

The planning, documentation, and implementation process is parallel to the prescribed fire procedure described in Section IV part D of this document and is usually incorporated with the timber management program.

N. Emergency Rehabilitation and Restoration

Forest Service Handbook 2509.13 provides direction on the process for determining the need for planning, implementing, and managing emergency rehabilitation work for a burned area. The Forest hydrologist is the emergency rehabilitation and restoration coordinator. The Forest emergency rehabilitation plan can be found in Appendix H.

O. Unit Dispatching

Dispatch services for the Forest are provided by the Cody Interagency Dispatch Center. CDC also provides initial attack and extended attack dispatching service and/or other related dispatch support services for other federal, state and county agencies. Dispatchers in CDC are comprised of Bureau of Land Management, Forest Service and Bureau of Indian Affairs employees. A center manager directs daily operations.

A Zone Coordination Group has been established to provide oversight of CDC. The Cody Interagency Dispatch Center Zone Coordination Group is comprised of representatives from the Shoshone and Bighorn National Forests, USFS: Cody and Worland Field Offices, BLM; Wind River Agency, BIA; Wyoming State Forestry Division: Bighorn Canyon NRA, NPS; and representatives from Fremont, Park, Hot Springs, Washakie, Bighorn & Sheridan Counties. The Forest fire management officer is the representative for the Shoshone National Forest. The charter and annual operating plan for CDC is located in Chapter 10 of the CDC Mobilization Guide.

At times the extensive initial attack CDC may become overwhelmed with either activity on the Forest or other cooperators. A protocol has been developed by the Forest to assume initial attack dispatch during these critical times. The protocol is described in Section IV, Sub Section B. Wildland Fire Suppression, Part 3. Initial Attack, g. Local Unit Dispatch Protocol.

Section V - Organizational and Budgetary Parameters

A. Current fiscal year budget and the ability to support planned and unplanned actions

The fiscal year 2008 budget for Wildland Fire Preparedness (WFPR) is \$1,313,500. This figure includes leadership, dispatch, prevention, detection and preparedness resources; and the Forest Service cost share for the Fort Washakie helicopter. Cost pools are not included in this year's allocation since the funds were extracted at the Washington Office. Based on the 2008 allocation the Forest was assigned a Firefighter Production Capacity (FFPC) of 22.5 chains per hour. This is a funding level consistent with MEL – 40%. FFPC for 100% MEL is approximately 37 chains per hour. An FFPC of 22.5 equates to a total of 5 engines (or combination of engines and IA modules) being staffed 7 days per week on the Forest during the normal fire season. The funding is adequate to meet the assigned FPCC target of 22.5 chains per hour. The FY08 budget spreadsheets can be found in Appendix B.

Funding Level	WFPR Dollars	Actions – Funded Items
\$1,313,500	\$170,000	Fort Washakie Helicopter
	\$1,145,500	Program Leadership, Program Support, Prevention, Detection, Cody Dispatch, 5 Engines

Wildland Fire Hazardous Fuels (WFHF) budget is \$1,061,000. WFHF cost pool contribution was extracted at the Washington Office so all funds allocated to the Forest were available for project planning and implementation. The hazardous fuels target is 6,100 acres. Almost all of the acres where fuels treatment work is taking place on the Forest have multiple resource objectives. Specific projects are further described in Appendix Q.

Accounting is unified at the Forest level and job codes are universal across the Forest. Work plans are prepared for each zone, the supervisor's office and dispatch. Additional direction for hazardous fuels and fire suppression related job codes is located in Appendix B.

B. Organization

The Forest fire management organization is structured as two zones, an interagency dispatch center, and a Supervisor's Office. The north Zone FMO is located in Cody at the Wapiti Ranger District. North Zone FMO responsibilities encompass daily fire management operations for the Clarks Fork, Greybull, and Wapiti Ranger Districts. The south Zone FMO is located in Dubois, at the Wind River Ranger District and is responsible for the daily fire management operations for the Washakie and Wind River Ranger Districts. CDC, located at Cody airport, provides initial attack and expended dispatching support for all incidents on the Forest. CDC is also responsible for daily

aviation operations. The Forest FMO and AFMO, located at the Supervisor's Office in Cody, is responsible for oversight of the fire management and aviation programs.

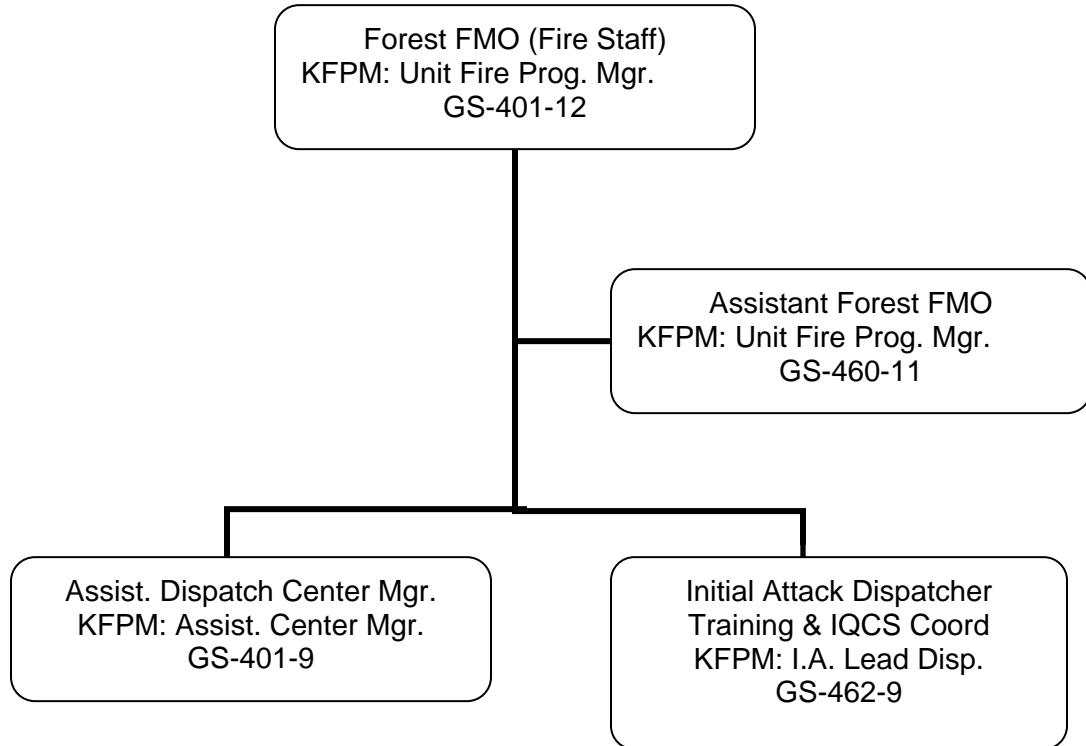
Firefighter production capability (FFPC) financed in WFPR is five Type 6 engines and three two-person hand crews. The engines are located at Clarks Fork, Wapiti, Greybull, Washakie, and Wind River Ranger Districts; the hand crews are located at Wapiti, Wind River, and Clarks Fork Ranger Districts. Firefighting resource location and capability are determined through an analysis process, NFMAS. Funding level of MEL is determined at the regional level based on available dollars and the same analysis criteria used at the unit level.

The minimum Forest organization to provide oversight and production is dependent on current and anticipated preparedness levels, figures 8 -11. The section on Draw Down provides further discussion. Preparedness levels also determine the need for additional suppression resources to be pre-positioned based on severity funds (figure 9). The following organization chart (Figure 17) does not consider minimum organization or severity needs but reflects WFPR and WFHF organization based on NFMAS and expected funding trends.

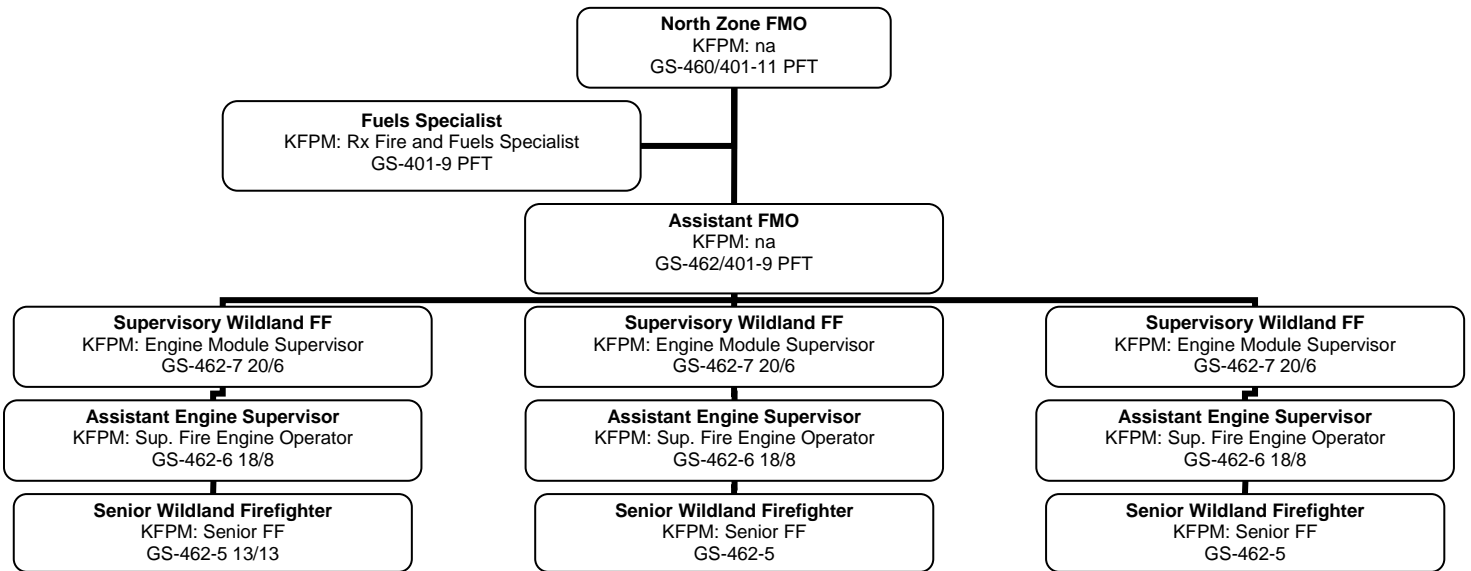
The fire organization reflects staffing based on MEL. The level of staffing for FY02-04 was 90-95% of MEL. Although the funding level for FY08 equates to MEL – 40%, the core permanent leadership will remain in place with reductions in hiring occurring at the temporary seasonal level. Initial attack crew modules will be combined with engine modules to ensure staffing that meets the FFPC target of 23.0 chains/hour.

Figure 17. Shoshone National Forest current fire organization.

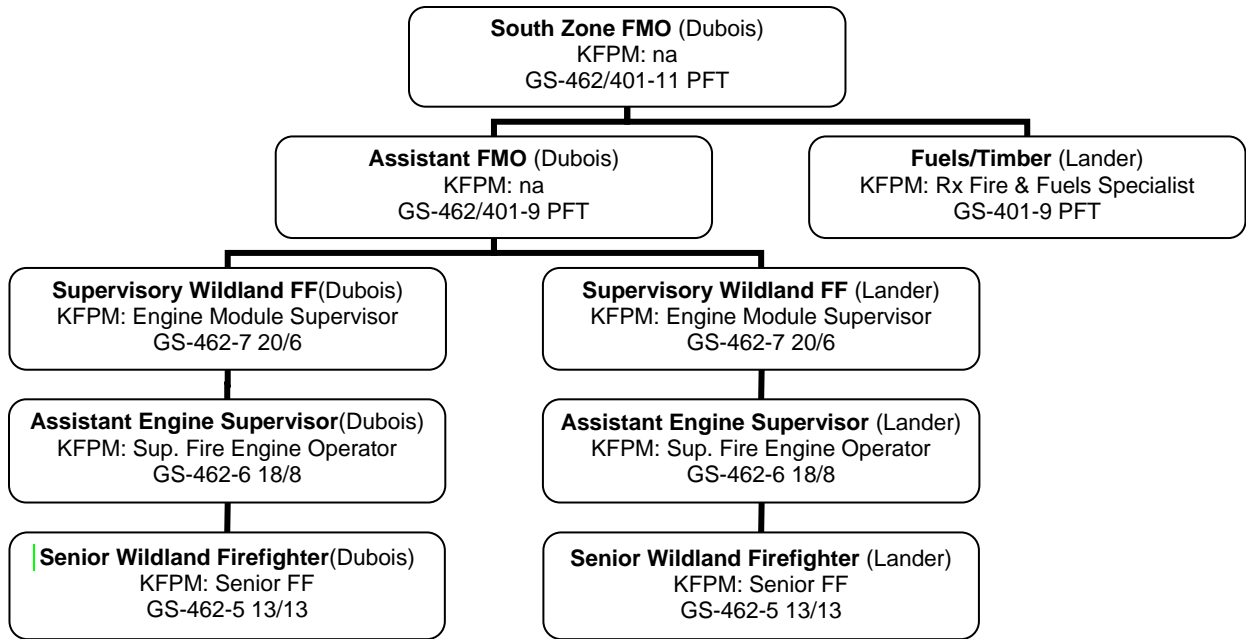
**Shoshone National Forest
Supervisor's Office Fire Organization
February 2008**



**Shoshone National Forest
North Zone Fire Management Organization
February 2008**



**Shoshone National Forest
North Zone Fire Management Organization
February 2008**



C. Cooperative agreements, annual operating plans, and interagency contacts

- *Wyoming Interagency Cooperative Fire Protection Agreement* – Outlines details of implementing the agreement through annual operating plans between federal and county wildland fire protection agencies (Park, Hot Springs, and Fremont).
- *Cody Interagency Dispatch Center Coordination Zone Annual Operating Plan* – Gives Cody Interagency Dispatch Center authority to dispatch Forest resources for initial attack and fire support. The agreement includes delegation of authority to CDC for dispatch activities and Forest FMO to represent Forest Supervisor on the oversight committee and multi-agency coordination (MAC).
- *Fort Washakie Interagency Helicopter Annual Operating Plan* – Establishes the role and operation of the interagency helicopter with the BIA at Ft. Washakie; the BLM in Rawlins, Worland, and Cody; and the Forest Service—Bighorn and Shoshone National Forests GYA Interagency Fire Management Planning and Coordination – Provides coordinated direction for fire management issues and operational procedures for federal agencies within the Greater Yellowstone Area.
- *Rocky Mountain Coordinating Group and Northern Region Coordinating Group* – Allows for initial attack and extended attack resources to cross regional boundaries when boundaries are common or agreements are in place such as GYA.
- *Wyoming Interagency Fire Restriction Plan* – Provides direction for when and how to implement fire restrictions or closures in conjunction with Wyoming cooperators.

Copies of the above agreements and others are located in Appendix S. A number of other agreements and memoranda of understanding are in place at the regional and national levels that are not addressed in this Fire Management Plan. The agreements are incorporated in policy and addressed in manuals and handbooks.

D. Fire Suppression Cost Share Agreements

The Forest will include all responsible agencies in the preparation of WFSAs, WFIPs, other strategic plans, and delegations of authority for wildland fires that are burning on multiple jurisdictions or threatening to burn onto other jurisdictions. Fire suppression cost share agreements will be prepared when it is anticipated that agency contributions will exceed reciprocal costs covered in annual operating plans. This includes preparing cost share agreements for prescribed fires and wildland fire use events that escape and are converted to wildfires even though the agency managing the fire to begin with may be responsible for all suppression cost as described in the Wyoming Interagency Fire Management Agreement. For all other wildland fires, costs associated with the protection of private land and structures are the responsibility of the local fire district or county that has jurisdiction. This includes private structures and facilities located on National Forest System lands such as permitted lodges and recreation residences. The Fire Business Handbook and Wyoming Interagency Fire Management Agreement describe different methods for developing cost share agreements; however, in order to

maintain consistency on the Forest when it comes to content of the agreements, the following principles regarding structure protection and working with local jurisdictions will apply.

Local jurisdictions are expected to:

- Provide an agency administrator or representative to participate in the development of the WFSA, long-term implementation plan, and delegation of authority as well as having the authority to make decisions regarding resource ordering and accomplishment of suppression objectives.
- Develop structure protection plans. This could include the local jurisdiction preparing the plan themselves or working with an IMT to obtain resources to develop the plan.
- Work within the ICS organizational structure to develop objectives for incident action plans, manage resources and implement structure protection plans. This includes determining resource, equipment and supply needs for structure protection and placing resource orders through the IMT logistics section as well as working closely with the finance section to ensure a fair and accurate accounting of costs.
- Make available (or order) a division/structure group supervisor (or local department equivalent) to direct structure protection operations and work with/for the IMT operations section chief.
- Pay for costs associated with preparation of structure protection plans as well as the resources, equipment, and supplies ordered and/or used to implement the plan. This would include such resources as aircraft, crews, engines, overhead, water tenders, pumps and hoses, sprinkler systems, and other supplies and equipment deployed specifically for the protection of private structures and facilities.
- Pay for the cost of air resources engaged in the protection of structures. The cost for air support resources engaged in direct or indirect structure protection are to be calculated based on a daily percentage of the number of acres that burn on private land. Where permitted lodges and residences are being protected on National Forest, air support resource cost will be based on the daily percentage of the number of acres that burn within ½ mile of the structure.
- Provide direction to the IMT regarding the release of resources and equipment when structure protection objectives have been met and resources and equipment are no longer needed.
- Pay for share the of administrative and other indirect fire support cost as identified in the incident cost share agreement.

A cost share agreement template for use on the Forest when multiple jurisdictions are involved or likely to be involved in the management actions for a fire is located in Appendix S.

E. Contract suppression and prescribed fire resources

None at this time.

Section VI - Monitoring and Evaluation

A. Annual Monitoring Requirements

The Shoshone National Forest Land and Resource Management Plan identifies two areas of the fire program to be monitored: fuels treatment and wildland fire suppression effectiveness. The annual Forest monitoring report documents the monitored activities.

1. Fuels Treatment

The fuels treatment program involves reduction of both natural fuels and activity-generated fuels. Forest Plan standard and guideline direction is to reduce activity-generated fuels so the potential fire line intensity will not exceed 400BTU/sec/ft (4 ft. flame length) during 90% of the normal fire season. The measurement frequency for natural and activity fuels treatment is the annual planned target +/- 25%.

Besides the Forest plan standards and guidelines, hazardous fuel treatment will be evaluated for compliance with the 10-year Comprehensive Strategy – March 2002. The following criteria will be evaluation measurements:

- Wildland urban interface and non-urban interface target 60/40 split
- Collaborative planning on 60% of the projects
- Document effectiveness of treatment using fire behavior methodology

2. Wildland Fire Suppression

Fire suppression direction is to protect life, property, and resource values from wildland fire in a cost-efficient and safe manner. The following criteria will be evaluation measurements:

- Budget and program are based on an analysis of efficiency
- Wildland fire suppression organization reflects the analysis based on current year funding
- Wildland fire suppression is based on least-cost plus damages with consideration for policy concerns
- Appropriate management response is commensurate with Forest Plan direction

In addition to Forest Plan standards and guidelines, each incident will be monitored for effectiveness of the planned strategies and tactics; ten percent of zone wildland fires will have ZFMO and FFMO documented site visits to review tactics and rehabilitation.

3. Fire Use

Each district will annually monitor and evaluate the implementation of wildland fire use incidents. The Shoshone National Forest Fire Effects Monitoring Handbook provides direction for monitoring all types of fire that occur on the Forest. The evaluation will determine how well the fire plan objectives are being met and any corrective actions that are required to successfully implement the program. Monitoring will also include identification of how projections in the individual plans differ from what actually occurred.

4. Fire Effects Monitoring

Forest Plan standards and guidelines direct that each prescribed burn will have a historical record, which documents the biological/physical effects and the fire behavior that produced the effect. The Shoshone National Forest Fire Effects Monitoring Guide describes the minimum requirements for monitoring before, during, and after a prescribed fire. The guide provides guidelines for setting project objectives, developing a monitoring plan, and choosing sample methods.

B. Reporting Requirements

The National Fire Management Event Report Reporting, form FS5100-29, can be found in Appendix I.

Fuels accomplishment and reporting is currently in National Fire Plan Operations and Reporting System.
